

UNIVERSITY OF CAPE COAST

FACTORS AFFECTING INTERNAL AUDIT EFFECTIVENESS IN THE
GHANAIAN PUBLIC SECTOR IN CENTRAL REGION

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2019

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GHANAIAN PUBLIC SECTOR IN CENTRAL REGION

BY

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Thesis submitted to the Department of Accounting, School of Business,
College of Humanities and Legal Studies, University of Cape Coast, in partial
fulfilment of the requirements for the award of Master of Commerce Degree in
Accounting.

AUGUST, 2019

DECLARATION

Candidate's Declaration

I hereby declare that this thesis is the result of my own original research and that no part of it has been presented for another degree in this university or elsewhere.

Candidate's Signature: Date:.....

Name: Victoria Korkor Kukuiah

Supervisors' Declaration

We hereby declare that the preparation and presentation of the thesis were supervised in accordance with the guidelines on supervision of thesis laid down by the University of Cape Coast.

Principal Supervisor's Signature: Date:.....

Name: Dr. Zangina Isshaq Mohammed

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ABSTRACT

The rise in financial scandals in recent times in government institutions and entities despite the existence of internal audit units in the public sector has made the role of internal audit effectiveness to attract the attention of academic researchers, professional bodies, the financial community and regulators. The purpose of this study was to examine factors that influence internal audit effectiveness in the Ghanaian Public Sector. To sample the respondents for the study, purposive and stratified random sampling techniques were adopted and questionnaire was used to solicit information from 130 internal auditors in the study area. The study used Structural Equation Modelling to estimate the factors that influence effectiveness of internal audit. The study found out that, independence of internal auditors, competence of internal auditors and control environment have significant positive influence on internal audit effectiveness in the public sector in the Central Region. However, management support does not have significant positive influence on internal audit effectiveness. The study therefore recommends more regular training and development of internal auditors on new internal audit policies, rules, procedures and also sharing of experiences among internal auditors across various public institutions and organizations. Finally, the study recommends continuous improvement in control environment and independence of internal auditors. With management support, management should be proactive in the provision of all necessary financial, logistic, and human resource for internal audit effectiveness.

KEY WORDS

Control Environment

Internal Audit Effectiveness

Institutional Theory

Positive Accounting Theory

Socio-Demographic factors

Structural Equation Modelling

ACKNOWLEDGEMENTS

My foremost gratitude goes to Dr. Zangina Mohammed Isshaq and Dr. Clement Lamboi Arthur, my principal and co-supervisors respectively, for the in-depth understanding I gained from their intuitive criticism and suggestions, which helped enriched and shaped this work.

My sincere appreciation goes to all public sector internal auditors in Central Region for their warm reception and cooperation during the collection of primary data for this study. God bless you all.

To my colleagues, especially, Seth Anderson Agyapong, Prince Amoako, Isaac Bawuah, Bertha Ama Gbagbadri and Justina Adams, I say God bless you for your encouragements and support.

Finally, to my dear husband, Mr. Samuel Kwame Kukuiah, you have been supportive and a source of inspiration. I owe you a lifetime of gratitude. Thank you.

DEDICATION

To my dear husband, Mr Samuel Kwame Kukuiah.

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LIST OF ACRONYMS

| | |
|--------|--|
| AT | Agency Theory |
| ACFE | Association of Certified Fraud Examiners |
| AICPA | American Institute of Chartered Public Accountants |
| CFRR | Centre for Financial Reporting Reforms |
| IIA | Institute of Internal Auditors |
| IIAG | Institute of Internal Auditors Ghana |
| IIA-PG | Institute of Internal Auditors-Practice Guide |
| IIA-SG | Institute of Internal Auditors-Supplementary Guide |
| IPPF | International Professional Practices Framework |
| IT | Institutional Theory |
| PAT | Positive Accounting Theory |
| SEM | Structural Equation Modelling |

CHAPTER ONE

INTRODUCTION

Background to the Study

In Ghana like other developing countries, the public sector dominates over the private sector. The Government of Ghana through national budget allocates funds to Metropolitan, Municipals, Districts Assemblies (MMDAs), ministries, departments, agencies and other public organizations for the provision of socio-economic facilities, goods and services, enactment of laws, design of policies and regulations to stimulate economic activities for higher economic growth and subsequent economic development. This suggests the importance of public sector in socio-economic development Agenda in Ghana. It is referred to as “pace setter” since it sets the agenda for the country (Udeh & Nwadiolor, 2016). For the public sector to function effectively, internal checks, that is, internal audit is inevitable.

Internal Auditing is an autonomous, objective assurance and consulting activity designed to add value and improve an organisation’s operations. It helps an organization to accomplish its objectives by bringing a systematic and disciplined approach to evaluate and improve the effectiveness of the risk management, control and governance processes (The Institute of Internal Auditors, North America, [IIA] 2018). The internal audit function is therefore a cornerstone of good public sector governance by providing unbiased and objective assessments of whether public resources are managed responsibly and effectively to achieve intended results (IIA-SG, 2012). One key role of auditors is to help public sector organizations achieve accountability and integrity,

improve operations, and instil confidence among citizens and stakeholders (IIA-Supplementary Guide, 2012; CFRR, 2017).

The scope of the internal auditor's work within an organization is broad and include organization's governance, risk management and management controls, operational efficiency (including safeguarding of assets), the reliability of financial and management reporting and compliance with laws and regulations (Enofe, Mgbame, Osa-Erhabor & Ehiorobo, 2013; Vos 1997). Internal auditing may also involve conducting proactive fraud audits to identify potentially fraudulent acts; participating in fraud investigations under the direction of fraud investigation professionals, and conducting post investigation fraud audits to identify control breakdowns and establish financial loss (Huber, Popoola, Che-Ahmad, & Samsudin, 2015; Zamzami, Nusa & Timur, 2016).

In recent times, financial scandals have been hitting government institutions and entities at an alarming rate (Abdullahi & Mansor, 2018). This has placed internal audit at a strategic position in corporate governance. This also explains why it has become an essential component of public sector governance and financial management reforms in many developing countries (Abdullahi & Mansor, 2018; Pricewaterhouse Coopers, 2016). Prior to the 1980s, internal audit was in the elementary form and was confined to checking compliance with rules, regulations, directives and policies of organizations and checking existence of asset (Vani 2010). The internal audit has however changed in the 21st century. Vani added that, the modern internal audit evolved after the Committee of Sponsoring Organization' (COSO) report (2013) on financial scandals (Lutz, 2015). The modern internal audit is not confined to only checking of compliance and existence of assets, but also involves in

management decisions to ensure systematic, disciplined approach to evaluate and improve risk management, control and governance processes (Vani, 2010; Fasual & Osagie, 2016).

It has been noted that the effective functioning of internal audit in any organization (be it private or public sector), depends on many factors. Some of the factors cited in most studies include: organizations' independence, existence of audit committee, stakeholder support, sufficient staff, formal mandate and existence of professional audit standards (Belay, 2007; De Smet & Mention, 2011). Other factors identified were: auditor's competence (Alzeban & Gwilliam 2014), auditor's independence (Al-Akra, Abdel-Qader & Billah, 2016), management support for internal audit and internal audit quality (Alzeban & Gwilliam, 2014).

Statement of the Problem

Internal audit since 1980s has been gaining root in all sectors of an economy, including the public sector. The growing and expanded role of internal auditing in recent times have made it necessary for researchers to focus attention on what promote internal audit effectiveness in both Africa and beyond (Shamsuddin & Bharathi, 2014; Owodo, 2016; Nyaga, Kiragu & Riro, 2018). In Ghana in particular, internal audit has undergone some reforms due to the enactment of the Internal Audit Agency Act in December 2003 (Act 658). The oversight role played by the Agency is aimed among other things at improving internal audit to easily detect and prevent fraud and improve corporate governance as a whole. Though, the enactment of the Internal Audit Agency Act has improved upon financial administration in the public sector to some extent (Asiedu & Deffor, 2017), the Annual Reports of the Auditor General over

the years continue to show some financial fraudulent in most public sector organizations in the country.

This raises much concern about internal audit effectiveness in the public sector in Ghana in particular. This indicates that the existence of the Internal Audit Agency Act, and internal audit units alone is not a panacea to effective internal audit. The question that bothers academicians, professionals and policy makers is “what then determine internal audit effectiveness in public sectors in Ghana?” Though there have been several studies on this subject matter, most of them were conducted in countries with socio-economic, cultural and political environment different from Ghana. For example, the study of Alzeban and Gwilliam (2014) focused on Saudi public sector and found factors such as experience of internal auditors, good relationship with external auditors and management support as factor influencing internal audit effectiveness. Nakiyaga and Dinh (2017) also identified organisational culture and management support as the main factors affecting internal control functions in the public sector in Uganda.

Similarly, studies by Christopher, Sarens and Leung (2009) found competence and management supports as determinants of internal audit effectiveness in Australia. Gramling, Nuhoglu and Wood (2013) also concluded that competence of internal auditors and corporate governance have significant impact on internal audit effectiveness in USA and Turkey. A study by Shamki and Alhajri (2017) also concluded that internal audit scope, internal auditor’s experience and senior management's response affect internal audit effectiveness in the Omani public sector.

In Ghana, some few studies have also considered factors that influence internal audit effectiveness in the public sector. Tackie, Marfo-Yiadom and Achina (2016) focused on professional proficiency, organisational independence, career advancement and top management support as the determinants of internal audit effectiveness in local government administrative systems in Ashanti Region. Aseidu and Deffour (2017) also found the size of the internal audit department and independence of the audit department as factors influencing the effectiveness of internal audit functions. Owodo (2016) also considered competence, management support and Audit committees.

Though previous studies on determinants of internal audit effectiveness across the globe have concentrated on factors such as independence, competence and management support, one other important factor such as control environment highlighted by the agency theory was not considered (COSO, 2013; Sekyi, Kofi, & Moreno Gené, 2017; IIA-Practice Guide, 2019). Moreover, review of literature on studies done in Ghana showed clearly that, internal audit effectiveness has not been extensively studied yet, especially in Central Region which was the first National Capital with a lot of public sector institutions.

This study therefore seeks to fill the gap by extending the study to include control environment which provides the structure for internal audit effectiveness. Moreover, broadening the scope to include all public sector institutions with internal audit units in Central Region, will help the study to make a better generalization of issues pertaining to internal audit effectiveness in the Ghanaian public sector.

Purpose of the Study

The purpose of the study is to examine factors that influence internal audit effectiveness in the public sector of Ghana.

Research Objectives

Specifically, the study seeks to:

1. Examine the influence of independence of internal auditors on internal audit effectiveness in the public sector in Central Region
2. Determine the influence of management support on internal audit effectiveness in the public sector in Central Region.
3. Examine the influence of competence of internal auditors on internal audit effectiveness in the public sector in Central Region.
4. Examine the influence of control environment on internal audit effectiveness in the public sector in Central Region

Research Questions

This study on the basis of the formulated specific research objectives, addressed the following questions:

1. What is the influence of independence of internal auditors on internal audit effectiveness in the public sector in Central Region?
2. What is the influence of management support on internal audit effectiveness in the public sector in Central Region?
3. What is the influence of competence of internal auditors on internal audit effectiveness in the public sector in Central Region?
4. What is the influence of control environment on internal audit effectiveness in the public sector in Central Region?

Significance of the Study

The importance of this study lies in its contribution to national policy, knowledge and future research. The government of Ghana through national budget allocate funds to public agencies, institutions, ministries and departments for specific projects to improve the lives of Ghanaians. Therefore, Government of Ghana is much concerned about effective and efficient use of public fund, hence always looks for effective policies to enhance internal audit within the public sector. Internal audit in the public sector can improve only when factors affecting effective functioning of internal audit are identified and addressed appropriately.

Internal auditors in Ghana do not only perform internal audit functions in organizations, but involves in advocacy. The need to improve the standard of internal audit in Ghana is now. This study thus would help internal auditors' advocacy role in improving internal audit standards in Ghana.

This study also adds to the body of knowledge on internal audit in the public sector in Ghana. Researchers, academicians and students of internal audit or finance can rely on this empirical information for future studies. This study would motivate many researchers to refocus on effectiveness of internal audit in the public sector, thereby helping to broaden understanding of internal audit issues and helping to shape policy for improved public sector internal audit.

Delimitations of the Study

The study was undertaken in the Central Region of Ghana. This region was chosen because of proximity and accessibility to data. The researcher has been working in the region for the past ten years; hence familiar with the

government institutions, department and ministries in the region and this to the best of the researcher's knowledge, would aid access to data.

The study focused on Metropolitan, Municipal and District Assemblies (MMDAs), Ministries and Departments including other government institutions in the region. Contextually, this study focused on effectiveness of internal audit and factors that influence the effectiveness from the perspective of the Internal Auditors.

Limitations of the Study

First, since the scope of the study is Central Region, the findings may not be generalised as a reflection of all the ten regions of Ghana.

Inherent in the study result is the limitation associated with non-probability sampling methods because of the use of purposive sampling technique to select the internal auditors. There is also the possibility of bias in the responses on questions bothering on personal factors.

Organization of the Study

The study is divided into five distinctive chapters. Chapter One is the introduction and contains background to the study, statement of the problem, purpose of the study, objectives of the study, significance of the study, delimitations of the study and the organization of the study.

Chapter Two is the literature review where the literature review is subdivided into four as theoretical review, conceptual review, empirical review and conceptual framework. The conceptual review focuses on key concepts of this study, namely concept of internal audit, effectiveness of internal audit and factors influencing the effectiveness, concept of public sector. Theoretical review considers the major theories that underpin this study and these include

Agency theory, Institutional theory and Positive Accounting theory. Conceptual framework is where this study uses diagram to portray the linkages of internal audit effectiveness and factors affecting it for clearer understanding of the issue.

Chapter Three took care of the methods used in achieving the research objectives. Here the research paradigm, research strategy and design, study population, sampling techniques explained and sample size is determined. Moreover, the chapter contains data collection instruments, data collection procedure and data analysis.

The Chapter Four looked at the analysis and discussion of results obtained from the data collected. The discussions of the findings are done in relation to literature reviewed in chapter two. Finally, chapter five looks at the summary, findings, conclusions and necessary recommendations based on the findings.

CHAPTER TWO

LITERATURE REVIEW

Introduction

Internal audit is one of the elements of the internal control system within an organization. It comes directly under monitoring and evaluation components of internal control system. Its importance has made its well-grounded within organizations. This chapter is devoted to literature review related to internal audit and its functions. It specifically focused on theories underpinning internal audit functions, concept of internal audit, internal audit functions, factors influencing internal audit effectiveness and conceptual framework.

Theoretical Review

Many theories have been developed to explain the importance of an audit in any organization. Those upon which this study is built include the Agency theory, Institutional Theory and Positive Accounting Theory.

The Agency Theory

This theory explains how the conflict of interest between principals and their agents could be resolved by introducing a third party to check the agents. It is a useful economic theory of accountability, which helps to explain the development of internal audit. According to this theory, Principals (referred to in this study as the Government) appoint agents (government officials and employees) and delegate some decision-making authority to them. In so doing, principals place trust in their agents to act in the principals' best interests.

However, as a result of conflict interest between principals and agents, principals may lack trust in their agents and may therefore need to put in place mechanisms such as audit to reinforce this trust. Some researchers used this

theory to explain how the conflict between the governance of universities and the goals of governments can be resolved (ICA, 2005; Otten & Van Essen, 2015; Kivisto, 2008). It strengthens the governing capacities of the government, and helps the faculties and departments to develop strategies to accomplish their goals. This theory is relevant to this study because it explains how internal audit helps to monitor the agents (Top Management and employees) which is applicable to public sector institutions.

Institutional Theory

This theory was propounded by DiMaggio and Powell (1983) and further developed by Forgyarty (1996). According to the theory, institutions are social structures that are entrusted with resources to provide stability and meaning to social life. Therefore, for them to survive and achieve their goals, organizations must conform to the rules and belief systems prevailing in the environment.

Lenz (2013) used this theory in his topic “Insights into the Effectiveness of Internal Audit: A Multi-Method and Multi Perspective Study.” Using the Coercive force, normative force and the Mimetic force, the study explained how internal audit effectiveness can be measured. According to him, coercive forces compel organization to comply with laws and regulations.

Therefore, internal audit is effective when it conforms to laws and other binding regulations. With the Normative force, internal audit is expected to be effective if it develops a distinct professional identity and adheres to the standards for professional performance. So, the stronger the normative force of internal auditors, the more effective the internal audit functions. Using the Mimetic force, IA is effective when there is a legitimate, institutionalized model

on which internal audit is based. According to Abu-Azza (2012), coercive establishment of IA does not necessarily lead to effective IA departments if normative processes of professionalism are absent.

Owodo (2016) also used this theory in his studies on factors affecting internal audit effectiveness in SOEs in Ghana. According to him, all the three levels of isomorphism, being coercive, normative and mimetic are key external factors that influence IA effectiveness. This theory is important to this study because it explains how management control structures are put in place to respond to a range of control and compliance requirements to ensure IAE.

Positive Accounting Theory

This theory was promoted by Watts and Zimmerman through a number of journal publications in (1978). This theory started with two contracting view that accounting information affects firm value. As some studies (Beaver, Lambert & Morse, 1980; McNichols & Manegold, 1983) had the view that accounting information affect firm values. Other studies by Watts and Zimmerman (1986) had the view that, accounting information had no effect on firm value.

These two contracting views raised heat debate in accounting and finance making others like Sunder and Cyert (1997); Biddle and Lindahl, 1982) to research into the issue. They however could not choose between the two views. Many other researchers attributed this inability to choose between two views to the choice of models by them. They used models like Efficient Market Hypothesis and Capital Asset Pricing Model and assumed no contracting and information cost (that is contracting cost and information cost were assumed to be zero).

The modification of the models where contracting and information cost were assumed not be zero lead to the support of the view that accounting information matter to firm value and also important to firm's ability to enter into contract with another firm. According to Sunder and Cyert (1997), accounting information is used to write contract, monitor contract and enforce contract, therefore, without accounting information, no contract is initiated in the first place.

If accounting information is so importance to firms and other parties, then there is the need to ensure its accuracy and transparency and this is the positive accounting theory. However, individual staff has their own self-interest that they seek to achieve through their actions and inactions. This seeking of self-interest by individual staff undermines accounting numbers and the achievement of firm's goal.

In view of this, Positive Accounting Theory by Watt and Zimmerman (1986) admonishes firms to put in place mechanism to prevent self –seeking interest by individual staff to pave way for seeking of organizational interest by all staffs. This is what internal control system seeks to do. Internal control aligns individual interest to organizational interest, leading to achievement of organizational goals. The theory is relevant to this study because internal audit effectiveness in an organisation boast the confidence of users of public sector accounting information.

Internal Audit Functions

The starting point of anything is understanding of the concept or phenomenon under consideration. Thus, this study starts with definitions and explanations of internal audit. Soltani (2007) is of the view that internal auditing

is an appraisal activity that a company establishes within its realms as a service. Internal audits in the view of Soltani focuses on examination, evaluation and the monitoring of the sufficiency and efficiency of both the accounting and the internal control systems. Internal audit is systematic process of objectively accumulating and assessing evidence concerning the present situation of an organisation and making comparisons of it with a laid down criterion and then interpreting the results with the users (Rainsbury, Bradbury & Cahan, 2009). Rainsbury et al. in their explanation noted that, internal audit is a basic part of the control system that an organisation has and provides so many benefits such as performing detective control mechanisms, preventative control mechanisms and also provision of suggestions for the betterment of an organisation.

The Institute of Internal Auditors (2015) defines Internal Audit as an independent, objective assurance and consulting activity designed to add value and improve an organization's operations. Section three (3) of the Public Sector Internal Audit Standards also defined Internal auditing as "an independent, objective assurance and consulting activity designed to add value and improve an organizations' operations. It helps an organization accomplish its objectives by bringing a systematic, disciplined approach to evaluate and improve the effectiveness of risk management, control and governance processes".

The approaches of internal audit are of three parallel phases which are the financial, compliance and operational approaches (Internrevisorerna, 2009). Internrevisorerna explained that financial internal audit mainly aims at evaluating financial statements of the organisations and to validate the financial statements. The compliance internal audit focuses on how effectively the rules and regulations are implemented. Operational internal audit seeks to evaluate

the competence to analyse the risks and make sure that the various processes in the company works more efficiently (Internrevisorerna, 2009).

Internal audit functions are performed by Internal Auditors (Russell, 2006). Internal audits are made to ensure the attainment of organizational goals or objectives. According to Russell, the long-term and short- or medium-term goals of an organization are enshrined in vision and mission statements respectively. The mission statement communicates the description of the organisation and what the organisation seeks to achieve at present or in nearest future. The vision statement conveys the message of what the organisation seeks to attain in the future (Reding et al., 2013).

According to Reding et al. (2013), the objectives of an organisation categorized into four categories as strategic objectives, operational objectives, information and compliance objectives. Strategic objectives focus on management and the planning effectiveness; operations objectives focus on process efficiency and effectiveness; information objectives focus on reporting credible internal and external information and compliance objective focuses on existing laws and regulations in an organisation. Reding et al noted that, all these four objectives are enhanced through internal audit, thus internal audit focuses on all the four identified objectives.

The internal auditor is to evaluate and improve upon effectiveness of risk management, governance process and control to ensure the attainment of the organisational goals and sustainable success (Reding et al., 2013). The board of directors are mostly in charge of the guidance and leadership in the governance process whereas the management is in charge of the risk management and control processes. The activities of the board of directors and

management are intertwined, and as such their cooperation is very vital to ensure efficient usage of all the processes. The internal auditor however conducts evaluations, creates improvements and guidance through these processes (Reding et al., 2013). According to Pickett (2005), internal auditors provide assistance to the management through the following:

Monitoring the operation of the management that the management itself is unable to monitor; identification of opportunities and minimizing the potency of failures; Authenticating reports to the senior management; Protection of the senior management in areas that are beyond their knowledge especially in technical analysis; Provision of information for the process of decision making; Making reviews for future improvement in operational effectiveness and keeping managers in line by pointing out violations of procedures and the principles of management.

The main purpose of the internal audits is to add more value to the organisation by consultancy activities and providing assurance to the management in the achievement of set goals. Internal audits are operational, provide tactics and strategies and bring an improvement in operations. The basic duties of internal auditors include identification and management of risks (Reding et al., 2013). In view of this, organizations with effective internal audit have minimal or no financial scandals (Pickett, 2005).

Pitt (2014) noted that, specific functions of internal auditors depends on the sector in which they operate. The sector can either be public sector or private sector. Within the public sector, internal audit aims at ensuring efficient and effective spending of the public money whereas in the private sector or corporate world, the internal audit aims at satisfying the interests of the

shareholders and also achieving sustainable highest profits (Pitt, 2014). As suggested by Pitt, internal audit functions are to meet the expectations of the stakeholders by utilising performance measurement processes that is aimed at the most efficient way of using the limited resources.

The Public Sector and Internal Auditing

Public sector institutions are normally the medium through which governments administer their democratic policies and therefore needs to be accountable in the use of public funds and in providing effective, efficient and economical service delivery. Applying internal audit function will be the major mechanism for controlling and using of all scarce resources available in the public sector organizations to achieve those government objectives (Baharuddin et al., 2014; Fekadu, 2018).

Internal auditing in the public sector is, therefore, now gaining more attention and recognition by both public sector governments and the international professional bodies worldwide in recent times than ever before. According to Abu-Azza (2012), Centre for Financial Reporting Reformms (CFRR, 2014) and Fekadu (2018) effective internal audit function has been identified as the key to fraud detection and prevention. Fraud detection is the identification of actual or potential fraud within an organization. It relies upon the implementation of appropriate systems and processes to spot the early warning signs of fraud (Motubatse, 2014). Fraud is not a recent phenomenon in the 21st century. It can be traced early in the history of our world as men attempted to use tricks, manipulation, and deceit in order to acquire wealth and to make unjust gains and profit (Petrascu & Tieanu, 2014). The International Auditing Standard (ISA, 240) defines fraud as “an intentional act by one or more

individuals among management, those charged with governance, employees, or third parties, involving the use of deception to obtain an unjust or illegal advantage”.

The Association of Certified Fraud Examiners (ACFE) (2014) also identifies three main categories of fraud as assets misappropriations, which involves theft or misuse of an organization’s assets, fraudulent financial statements and corruption which includes activities such as the use of bribes or acceptance of “Kickbacks”, improper use of confidential information, conflicts of interest and collusive tendering.

Fraud in the public sector often involves misuse of entrusted power for personal gain committed by both employees and top management (PWC, 2016). The Centre for Financial Reporting Reforms (CFRR, 2014) outlined the following as some common fraud in the public sector:

Procurement fraud. This often involves false invoicing, manipulations in the procurement processes or procuring low quality items, receiving kickbacks for referring contract work to related parties.

Theft and skimming. This involve removing and selling inventory, cash, consumables, or information, fraudulent acceptance of goods and services, and receiving compensation without reporting transactions.

Fraudulent expenditure claims. Examples include using false receipts to claim travel and accommodation allowances.

Payroll fraud. Examples include adding fake employees to the payroll or claiming overtime for hours not worked for.

The impact of fraud

The impact of fraud on any country is very devastating in both developed and developing economies. They include huge financial losses of state funds into wrong hands, negative impact on development, and reputational damage of corrupt officials whose names are published in the media (Centre for Financial Reporting Reforms, 2017; Kassem & Higson, 2012; Mathenge, 2016).

Corruption erodes trust in government and undermines the social contract, slows investment with consequent effects on growth and job creation for the ordinary people (Pillay, 2004; World Bank, 2016). It also jeopardizes the allocation of resources to sectors crucial for development since the resources are being abused by officials into whose hands lies the power to allocate such resources. Effective internal auditing remains the solution to curb the occurrence of fraud in the public sector in order to ensure the protection of national purse. This is important since internal audit units represent the institutional gates of all public sector institutions (Agyeman-Duah, 2015).

Internal Audit Effectiveness

Internal audit is the independent appraisal function (Suleiman & Dandago, 2014) and its effectiveness determines the success of an organization. The Institute of Internal Auditors (IIA) noted that internal audit effectiveness is the degree of quality to which targets or goals set are attained. Internal audit function effectiveness is the degree to which internal audit achieves its purposes (Mihret & Yismaw, 2014). It can also be referred to the capability of the internal auditors to meet the objectives that are established within an organisation (Dittenhofer, 2001).

The effectiveness of internal audit functions is usually dependent on the expectations of the stakeholders irrespective of the systematic and generally valid measures that are used to gauge internal audit effectiveness (Dittenhofer, 2001). With regards to public sectors, the stakeholders who ensure general effective functioning of internal audit include government, civil societies and the general public (Cohen & Sayag, 2010).

The effectiveness of the internal auditing function is much more determined by the thorough evaluation of the functions that are being assigned by management. Alzeban and Gwilliam (2014) are of the opinion that in order to achieve the purpose of internal audit, the functions must meet three principal conditions which include independence, status and objectivity of the organisation.

There are basically two main approaches to the concept of internal auditing effectiveness. With the first approach, the effectiveness of the internal auditing is being determined by the fit that exists between the audit and some set of universal standards basing on extrapolations from the features of internal auditing (White, 1976). This approach was proposed by Sawyer (1993), who presented five standards for internal auditing and they include the scope of work, interdependence, professional proficiency, performance of audit and the managerial efforts to manage the internal audit department.

The next approach was also presented by Anderson (1983) and followed by the arguments by Stocks, Albrecht, Howe and Schueler (1988) that, the effectiveness of internal auditing is not a reality that is not computable but determined by subjective evaluations that is assigned to the function by

management. This study thus followed subjective evaluation of internal audit effectiveness from the perspective of internal auditors in the public sector.

Determinants of Internal Audit Effectiveness

The determinants of effectiveness of internal audit are reviewed as follows:

Independence of Internal Auditors

The standard (IPPF, 2017) defines internal audit independence as “freedom from circumstances that could jeopardize internal auditors’ capacity to impartially execute their mandate or as a condition whereby threats to auditors’ objectivity are sufficiently avoided”. This factor allows the audit activity to be conducted without interference by the entity under audit. Coupled with objectivity, organizational independence contributes to the accuracy of the auditors’ work and the ability to rely on reported results.

The independence of internal auditor is attained through the status of the organisation and objectivity (Rainsbury et al., 2009). Independence of internal auditors is mostly achieved when they are appointed by the Board of Directors and not the management of the organisation. The independence of internal audit includes the independence of the auditing programme, the independence of the auditing process and the independence in the reportage (Sun et al., 2012).

The internal auditors should have the power to access any document relating specific audit task without any fear or any favour. Management that is involved in unethical activities often become obsessed and interferes in the audit reviews, curtailing the scope of audit, holding of vital information and sometimes the results of the audit process. In organizations where head of internal audit unit or department possess adequate powerful position prevent

management interference in internal audit processes (Van Gansberghe, 2005). According to the Institute of Internal Auditors (2015), the internal auditors must be allowed unlimited access to register of assets, confirm the existence of the assets, employees and payroll data, records and any other requests for their work.

Internal auditors are independent when they have the freedom to access all the records and check the assets. Internal Auditor must be free from the restrictions that the management imposes on them when acquisition of evidence and activities are being investigated and must be devoid of any personal interest as they might impede the verification of the audit (Sarwoko & Agus, 2014).

The independence of internal auditors embodies independence of reporting of internal audit results. In organizations where internal auditors are free from any pressure of what to report on, it encourages internal audit effectiveness (Sarwoko & Agus, 2014).

From the above this study hypothesis as follows:

H₀: Independence of Internal Auditors does not have significant positive influence on internal audit effectiveness in the public sector in Central Region.

H₁: Independence of Internal Auditors has significant positive influence on internal audit effectiveness in the public sector in Central Region.

Managerial Support

Managerial support is when high level managers in the organisation give prudent approval, encouragement and aid to their employees or subordinates to perform their duties effectively. The commitment and the support of management mostly play crucial roles in organisational transformation

(Fernandez & Rainey, 2006). Managers' functions include supervision and allocation of resources for performance of tasks within the organization.

Supports for internal audit include allocating financial resources to the performance of internal audit work and providing encouragement to them in the performance of their functions. The relationship between the internal audit staff and the management of the organisation is very essential in determining the self-sufficiency and objectivity of the internal auditor (IIA 2015). In organizations where management ensures that the internal audit department has the necessary resources that are required in the performance of their duties, the internal audit is effective.

In semi autonomy organizations, where officials are committed to internal audit and also make sure that the internal auditors are being treated with respect and given adequate support, internal audit functions are effective (Mihret & Yismaw, 2007). It is very vital to have a well-supported internal audit function with respect to governance structure, allocation of budget and appropriate resources including well skilled personnel so as to prevent corruption and wastefulness in the public sector (Belay, 2007).

Managerial support is achieved through the facilitation of the functions of the internal audit through the provision of resources, provision of funds, transport, training, equipment and budgeting. The component of management support involves the response to the audit findings and the commitment of the management to make the internal audit unit more vibrant and hence, affecting the efficiency and effectiveness of the department (Cohen & Sayag, 2010). They further added that managerial support is seen in areas such as appointment of internal audit staff and career development for internal audit staff.

From the above, this study hypothesis as follows:

H₀: Management support does not have significant positive influence on internal audit effectiveness in the public sector in Central Region.

H₁: Management support has significant positive influence on internal audit effectiveness in the public sector in Central.

Competence

Competence is much more related to the sufficiency of education and experience that is in the possession of the public accountants in the area of auditing and accounting (Shamki & Alhajri, 2017; Baharud-din, Shokiyah & Ibrahim, 2014). The International Standards for the Professional Practice of Internal Auditing (ISPPA) highlights the importance of internal audit team who possesses the knowledge, skills, and other competencies necessary to perform their responsibilities (ISPPA, Standard 1210). It is essential for public internal auditors to have the necessary education, professional qualifications, experience and training to be able to add value and improve the organization's operations.

The internal auditors must gain sufficient technical training which encompasses technical aspects and general education (Sarnagaio & Rodrigues, 2016). The auditor must initially gain some professional experience through sufficient supervision and the review of the work by the superior in order to mature enough and gain competence. Competence can be an instrumental skill that is mostly used to perform audits much objectively (Badara & Saidin, 2013).

Competence of internal auditors influences the effective performance of internal audit functions. Internal Auditors who have the required expertise, specialized knowledge and the potency in auditing will performance internal audit functions effectively. Internal audit functions in the public sector are

effectively performed if there are adequate and competent internal audit personnel (Unegbu & Kida, 2011). Studies by (Asiedu & Deffour, 2017; Onumah & Krah, 2012) revealed that lack of competence of internal auditors is an obstacle to the effectiveness of IA in a number of African countries.

The staffing of the internal audit department appropriately and the efficient management of that staff are usually what sparks the effective functioning of the internal audit department (DeZoort & Salterio, 2001). Weak internal audit department can lead to mismanagement, abuse and mistakes that can negatively affect other controls. The size of the internal audit staff and the competence level of internal audit are major features of internal auditing quality that is inseparable.

Competent internal auditors do not only produce quality audit report but also effectively communicate the audit reports to clearly understanding and implementation of its recommendations. Competent internal auditors have skills like interpersonal skills, oral skills, written skills, listening skills which are essential for dissemination of internal audit reports (DeZoort & Salterio, 2001).

In this era of rapid development in technology, more entities are using technology to do business and it is important internal auditing in the public sector is not left out. For instance, Krishna (2011) found that effective use of audit technology tools is critical to the success of audit activity, which will definitely improve the internal audit quality and eventually affect the effectiveness of internal audit. Thus, a competent internal auditor in this modern era is an ICT literate and is conversant with ICT applications for internal auditing.

From the above, this study hypothesis as follows:

H₀: Competence of Internal auditors does not have significant positive influence on internal audit effectiveness in the public sector in Central Region.

H₁: Competence of Internal Auditors has significant positive influence on internal audit effectiveness in the public sector in Central Region.

Control environment

Control environment is the foundation of internal control system of which internal audit is a part. Thus, effectiveness of internal audit function depends on control environment (Sekyi & Moreno, 2017). This control environment provides structure and discipline for internal audit. Control environment embodies elements such as integrity, ethical values, competence of personal, management philosophy and management style. Control environment lies mostly on the Board of Directors (COSO, 2013; Sekyi & Moreno, 2017). Board of Directors set the tone for control environment. In an organization where Board of Directors are effective and efficient with positive operational philosophy and management style, the control environment is effective and internal audit functions are effectively performed.

Aside, Board of Directors, Chief Executive Officers (CEOs), heads of departments and Audit Committee are responsible for control environment (COSO, 2013; DeZoort & Salterio, 2001). Therefore, in organizations where CEOs, Heads of Department and Audit Committees are honest, competent and loyal to stakeholders, internal audit functions are executed effectively (DeZoort & Salterio, 2001). The audit committee is important in the public sector because of the importance of its oversight responsibility of greatly strengthening the

independence, integrity, and effectiveness of public sector audit activities (Badara & Saidin, 2014).

Control environment puts in place structure of reporting and has been known as one of the key determinants of effectiveness of internal audit. (Owolabi & Dada, 2011). Well laid down reporting structure with an organization facilitate dissemination of audit reports to appropriate departments and bodies for immediate attention. Good reporting structure ensures healthy relationships between internal auditors and board of directors, management and heads of departments which is critical in the realisation of sound corporate governance in an organisation (Bishop, Hermanson & Lapidés, 2000).

From the above, this study hypothesis as follows:

H₀: Control environment does not have significant positive influence on internal audit effectiveness in the public sector in Central Region.

H₁: Control environment has significant positive influence on internal audit effectiveness in the public sector in Central Region.

Conceptual Framework

This conceptualized the determinants of effectiveness of internal audit functions in the public sector as shown in Figure 1.

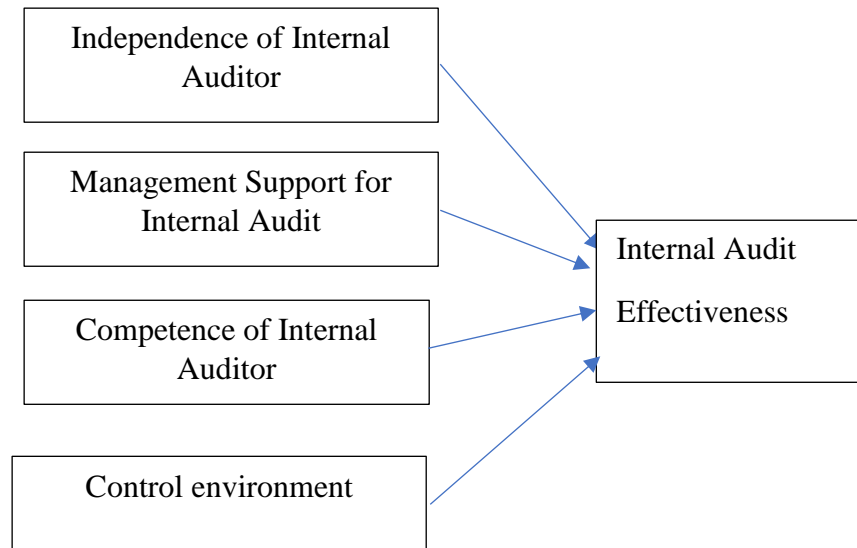


Figure 1: Determinants of Internal Audit Effectiveness in the Public Sector. Source: Author’s Own Construct (2019)

From figure 1, the internal audit effectiveness is determined by four main factors, namely independence of internal auditors, management support, competence of internal auditors and control environment.

Empirical Review

Extensive studies have been conducted in many countries into factors that affect internal audit effectiveness in both private and public sectors.

Nyaga, Kiragu and Riro (2018) conducted a study on the “Influence of internal audit independence on internal audit effectiveness in the Kirinyaga county government, Kenya”. The main purpose of the study was to explore the relationship between internal audit independence and internal audit effectiveness in the Kirinyaga County Government. The study used descriptive research design where the target population consisted of all the forty-six staff

members from the Directorate of Internal Audit of Kirinyaga County Government. Regression analysis revealed that internal audit independence had positive and significant effect on internal audit effectiveness at 5% significant level. The study concluded that internal audit independence was an important predictor of the effectiveness of the audit function in the Kirinyaga County Government.

Christopher, Sarens and Leung's (2009) study was on "A critical analysis of the independence of the internal audit function: evidence from Australia". The study critically analysed the independence of the internal audit function through its relationship with management and the audit committee. The data collection instrument used was questionnaire where data were collected from Australian chief audit executives (CAEs). The studies revealed weak competence and independence undermining the effectiveness of internal audit in Australia.

Similarly, Shamki and Alhajri (2017) focused on "Factors that influence Internal Audit Effectiveness in Omani public sector". The study examined the extent to which internal audit effectiveness could be influenced by selected factors namely internal audit scope, internal auditor's experience and senior management's response in the Omani public sector. They used respondents of 45 managers and 163 employees in Public sector with multiple regressions employed to examine the relationships among the study's variables. The research strategy adopted was a mixed method where both quantitative and qualitative research strategies were used. Analysis were done both descriptively and quantitatively where correlation analysis, and multiple regressions were employed to examine the relationships among the study's variables. The study

found a significant relationship between internal audit effectiveness and its scope and auditors' experience in the employees' sample, while they were insignificant in the managers' sample.

Alzeban and Gwilliam (2014) also studied on "Factors affecting the internal audit effectiveness: A survey of the Saudi public sector". The aim of the study was to assess the factors influencing internal audit effectiveness (IAE) in Saudi Arabia. Data was obtained from 203 managers and 239 internal auditors from 79 Saudi Arabian public sector organizations through questionnaire administration. The data was analysed using multiple regression analysis to examine the impact of five principal factors on internal audit effectiveness. Results showed that management support for internal audit drives perceived effectiveness of the internal audit from both management's and the internal auditors' perspective.

Gramling, Nuhoglu and Wood (2013), looked at "A descriptive study of factors associated with the internal audit policies having an impact: Comparisons between organizations in a developed and an emerging economy". The main aim of the study was to provide evidence on whether internal audit factors (i.e. characteristics, activities, and work areas) are associated with effectiveness of internal audit and whether these factors, and their influence significantly differ between a developed and an emerging economy (i.e. the USA and Turkey). Factors positively associated with financial reporting in the USA are assurance activities, control work, and competence; in Turkey, significant factors are governance work and competence. For governance, it was found out that, the factors positively associated with it in the USA include assurance activities, governance work, and competence.

Abu-Azza (2012) studied on “Perceived Effectiveness of the Internal Audit Function in Libya” using Institutional and Marxist Theories. Analysis of qualitative data illustrated that, there were weaknesses in specific elements relating to the competence of internal auditors in terms of their low level of experience and professional qualifications, and computer technology skills. Also, the level of IA effectiveness is limited due to the narrow scope of IA work, limited use of career internal audit staff, and lower organizational status of IA departments. The results further stressed the fact that, coercive establishment of IA does not necessarily lead to effective IA departments if normative processes of professionalism are absent.

Similarly, a study by Kirima (2016) on “Factors Affecting the Performance of the Internal Audit Function in Government Ministries in Kenya” also revealed that internal audit independence and authority impacts on performance and concluded that performance is enhanced if there are clear policy on the establishment of the internal audit functions. This will protect the internal auditors from undue pressure when they present audit reports, especially on corruption issues involving top management officials. The study also found out that, the internal auditors’ working environment impacted on the performance of internal audit functions. Also, their performance is impacted by the presence of a clear structure of responsibility linked to set targets, flexibility in the approach of the internal audit work, better exposure of internal audit staff through attendance of professional conferences and exchange programs, professional training support and a clear recognition and reward system.

The research work by Gbegi and Adebisi (2015) also analysed the incidence of fraud in the Nigeria public sector and the means of achieving a

successful management of such fraud. Using a population of thirty (30) ministries in Nigeria from which sample size was drawn to twenty-eight (28) ministries the study revealed that, poor internal control system and management integrity has influence on fraud prevention in the Nigeria public sector. They recommended the need to develop strong management policies, the use of modern accounting and auditing software to enhance efficient and smooth detection of fraud, building up of strong internal control system in the public sector and the enforcement of management integrity.

Aseidu and Deffor (2017) conducted a study on “Fighting Corruption by Means of Effective Internal Audit Function: Evidence from the Ghanaian Public Sector” where they analysed the link between administrative corruption and effective internal audit function (EIAF) with emphasis on the IAA ACT 658 of 2003. Using structural equation modelling (SEM), they concluded that there is a negative relationship between administrative corruption and effective internal audit function (EIAF) in Ghana. Though evidence showed that, the Act (658) has played a critical role in maintaining financial discipline, accountability, and transparency, more is still needed to be done to combat corruption in Ghana.

Studies by Onumah and Krah (2012) on “Barriers and catalysts to effective internal audit in the Ghanaian public sector,” also observed that the scope of internal audit services in the public sector is limited to regular audit activities, mainly pre-audit of payment vouchers which take estimated 74% of the average productive audit time.

Chapter Summary and Research Gap

This chapter looked at the theories upon which the study is built. It also examined the concepts of the variables in the study and studies done by others,

both internationally and locally. Previous studies have laid emphasis on different factors that influence effectiveness of internal audit functions in both private and public sectors. (Ali, 2018; Mustika, 2015; Shamki & Alhajri, 2017; Baharud-din, Shokiyah, & Ibrahim, 2014).

However, it appears most of the studies did not include one key variable which is control environment. According to Sekyie & Moreno (2017), control environment is the basis for effective internal control systems. Moreover, review of literature on studies done in Ghana showed clearly that, internal audit effectiveness has not been extensively studied yet, especially in Central Region which was the first National Capital with a lot of public sector institutions.

The concern of the Auditor General in his report (2017, p.4.) also called for the need to critically study the factors that can improve upon internal auditing in the Ghanaian public sector more comprehensively. Hence this study intends to fill the gap by extending the studies to include control environment which can also play a key role in internal audit effectiveness in the public sector in Central Region. Moreover, broadening the scope to include all public sector institutions with internal audit units in Central Region, will help the study to make a better generalization of issues pertaining to internal audit in the Ghanaian public sector.

CHAPTER THREE

RESEARCH METHODS

Introduction

This chapter presents the methods and materials used to establish the factors that influence the effectiveness of internal audit functions in the public sector in the Central Region of Ghana. The chapter specifically contains the research paradigm, research strategy, research design, sampling technique, sample size, data collection and data analysis and model specification.

Research Paradigm

This study used Positivist research paradigm. Positivism posits that scientific method is the only way to establish truth or reality. Thus, from positivists point of view, every research should be scientific. According to Bogdan & Biklen (2003), positivist research paradigm fits well for establishing causes of a phenomena or to test theory. Therefore, through this paradigm, this study was able to determine the causes of internal audit effectiveness in the public sector in the Central Region of Ghana.

Research strategy and Design

Among the research strategies, this study adopted quantitative research strategy. Quantitative research strategy makes use of positive claims to establish relationship between two or more variables (Creswell, 2003). Creswell further explained that quantitative research strategy helps theories or hypothesis; thus, helping to confirm or otherwise claims made about certain phenomenon. Therefore, with quantitative research strategy, study could establish the factors that determine the effectiveness of internal audit functions within the public sector in Ghana. Moreover, one of the features of scientific studies is to test

theories or hypothesis (Grix, 2004), thus the use of quantitative research strategy makes this study scientific.

Agyedu, Donkor and Obeng (2010) noted that, studies have constraints and these include time constraints and financial constraints, hence most studies rely on sample instead of the entire population. This study used sample of public sectors in Ghana and the outcome would be generalized to the entire public sector in Ghana and this could be done only through quantitative research strategy.

This study on the basis of research design used explanatory research design. Rich, Brians, Manheim and Willnat (2018) defined explanatory research design as type of research design that seeks to establish cause and effect of a certain phenomenon. In this study the phenomenon under consideration is internal audit effectiveness in the public sector. This study however does not focus on effect of effectiveness of internal audit function but rather the causes or determinants of effectiveness of internal audit functions within the public sector. Therefore, through explanatory research design, estimated the determinants of effectiveness of internal audit functions using Structural Equation Modelling (SEM).

Population of the study

The population of this study comprised all internal auditors in the public sector in the Central Region of Ghana. This includes internal auditors in Ministries, Departments and Agencies (MDAs), Metropolitan, Municipal and District Assemblies (MMDAs), Security services, Ghana Health Service and educational institutions in Central Region. The number of internal auditors in

the Central Region were 191 from 14 public sector institutions who have internal audit units. The detailed is shown in Table 1 below:

Table 1: Population of Internal Auditors in Central Region

| Public Sector Institutions | Population of Internal Auditors |
|----------------------------|---------------------------------|
| Educational Institutions | 91 |
| MMDs and MDAs | 66 |
| Security Services | 26 |
| Ghana Health Service | 8 |
| Total | 191 |

Source: Field data (2019)

Sampling Techniques

Sampling is inevitable in scientific studies. According to Agyedu et al. (2010), it is difficult for a study to include all the units within a population because of time and financial resource constraints. In view of this, they recommended sampling for any scientific study like this.

Sampling techniques are grouped into two as probability and non-probability sampling techniques. With probability sampling techniques, all the elements within the population have equal chance of being selected but this is not so with non-probability sampling techniques. This study employed a non-probability sampling technique (purposive sampling) and a probability sampling techniques (stratified sampling).

The first stage of this sampling process was to identify the respondents. Since the study is about effectiveness of internal audit and factors that determine it, this study purposively sampled only internal auditors within the public sector in Central Region. The internal auditors perform the internal audit, hence they have in-depth knowledge about internal audit and its effectiveness within the

region. Purposive sampling is used when one wants to sample people who have in-depth information knowledge about a phenomenon under consideration.

The next stage is sampling of the respondents. This study used stratified sampling technique where the study population was grouped into four based on the categories of the public sector institutions. The institutions are categorized as educational institutions, Ministries, Departments and Agencies (MDAs), Metropolitan, Municipal and District Assemblies (MMDAs), Security Services and Ghana Health Service. MDAs and MMDAs come under one umbrella. The stratified sampling helped ensure fair representation of all the categories of public sector institutions in this study, thus, avoiding or minimizing sampling bias and making the outcome of this study more reliable. This study then sampled the respondents from each stratum based on their sample sizes through random sampling technique.

Sample Size Determination

Krejcie and Morgan (1970) sample size determination table was used to determine the sample size of 142 from sampling frame of 191. The study used this sample size determination formula because it is simple and does not involve rigorous calculation. The sampling frame for the study was made up of 191 Internal Auditors in the Central Region of Ghana. The sample size was based on the sample size determination of less than or equal to 10,000 using 95 percent confidence interval. This study through Krejcie and Morgan (1970) sample size determination table, determined the distribution of the questionnaires for internal auditors in each public sector institution as shown in Table 2.

Table 2: Distribution of Questionnaire to the Public Sector Institutions

| Public Sector Institutions | Population | Relative Frequency (rf) | Rf*142 |
|----------------------------|------------|-------------------------|--------|
| Educational Institutions | 91 | 0.476 | 68 |
| MMDs and MDAs | 66 | 0.346 | 49 |
| Security Services | 26 | 0.136 | 19 |
| Ghana Health Services | 8 | 0.042 | 6 |
| Total | 191 | 1.000 | 142 |

Source: Field data (2019)

Data Collection Instrument

This study relied only on primary data and these were collected from internal auditors through questionnaire administration. The data comprised of the following:

- i. Internal audit Effectiveness
- ii. Socio-demographic characteristics of the internal auditors;
- iii. Independence of internal auditors;
- iv. Managerial support for internal audit;
- v. Competence of internal auditors;
- vi. Control environment of internal audit

There are various data collection instrument but this study used only questionnaires. Questionnaire can be structured, semi-structured and non-structured. This study saw structured questionnaire to be most appropriate. This is because the structured questionnaire helps to collect data at the lowest administration cost (Bryman, 2004). Bryman further explained that structured questionnaire helps to collect more standardized data which aid quantitative analysis.

This study used structured questionnaire to collect the data from the internal auditors in the public sector in in the Central Region of Ghana. The questionnaires administered contained four sections. Section I focused on socio-demographic characteristics of the respondents which embodied items such as sex, age, highest educational attainment, years of service, marital status and religion. Section II focused on assessment of effectiveness of internal audit function in the public sector with eight items; Section III focused on independence of internal auditors; Section IV focused management support for internal audit; Section V focused on competence of internal audit and Section IX focused on control environment. The detailed questionnaire is at appendix 1.

This study adopted a questionnaire for determinants of internal audit effectiveness used extensively in many current studies (Drogala et al., 2015; Dellai, 2016) and from COSO 2013). The study used five-point Likert Scale for all the questions contained in the questionnaire, except questions under Section I (socio-demographic characteristics of the respondents). The five-point Likert Scale ranges from strongly disagree (1) to strongly agree (5). This study used five-point Likert Scale because COSO (2013) and other studies on internal audit effectiveness (for example, Drogala et al., 2015) used it. Five-point Likert Scale reduces the frustration level of respondents and increases response rate and response quality (Dellai, 2016).

Data Collection Procedures

This study obtained introductory letter from University of Cape Coast with which permission was sought from the management of the MMDAs, Ministries, Department and Institutions under public sector in the region. The collection was done between April, 2019 and May, 2019. This study

administered the questionnaire at the premises or offices of the internal auditors with the help of two (2) field assistants and each respondent was given maximum time to fill in the questionnaire. The questionnaires were collected after a follow up call showed that everybody has completed with the required information, though some completed the filling on the same day.

Ethical consideration

According to Bryman (2004) as cited by Poni (2014), a study has to explain its purpose to the respondents and extent of engagement of the respondents and seek the consent of the individual respondents. This study acted accordingly by informing all the respondents that the study was for academic work and it was a requirement for master certificate at UCC. The study also informed all the respondents of the kind and nature of data needed from them. Moreover, the study told all the respondents that participation in this study was not compulsory but voluntary and assured all respondents of strict confidentiality and anonymity of information provided.

Data Analysis

The data collected were cleansed, coded and entered into SPSS, version 21.0 and STATA, version 13.0 for analysis. This study used SPSS to perform the descriptive statistics in the study. The descriptive statistics include frequency tables, weighted averages and standard deviations. The study further used SPSS for the factor reliability test (Cronbach's Alpha), validity test, factor loading, Kaiser-Mayer-Olkin (KMO) and Bartlett's Test for sphericity. The study used STATA for the Structural Equation Modelling (SEM) since SPSS does not have an application for SEM.

The analyses in this study were grouped into two as descriptive analysis and regression analysis. The descriptive analysis made use of frequency tables where frequencies and percentages are reported. The Likert Scale questions were analysed using weighted average and standard deviation and they were interpreted as shown in Table 3.

Table 3: Interpretations of Likert Scale Questions

| Likert Scale | Weighted Average range |
|-------------------|------------------------|
| Strongly disagree | 1.00-1.49 |
| Disagree | 1.50-2.49 |
| Neutral | 2.50-3.49 |
| Agree | 3.50-4.49 |
| Strongly agree | 4.50-5.00 |

Source: COSO (2013); Dellai (2016)

To estimate the factors influencing effectiveness of internal audit, this study adopted Structural Equation Modelling (SEM). The study adopted SEM because it is a multivariate statistical analysis technique that is used to analyse structural relationships. This technique is the combination of factor analysis and multiple regression analysis, and it is used to analyse the structural relationship between measured variables and latent constructs (Aseidu & Deffour, 2017).

Therefore, with structural equation model, this study estimated the influence of independence of Internal Auditors, competence of Internal Auditors, management support and control environment on effectiveness of internal audit. These variables (independence of internal auditors, competence of internal auditors, management support control environment and effectiveness of internal audit) are unobservable or latent variables; hence SEM is the most appropriate technique to estimate their relationship

The model is specified as in the equation as follows:

$$EIAF = \beta_0 + \beta_1 IndepIA + \beta_2 MgtS + \beta_3 CompIA + \beta_4 ContE + \varepsilon$$

Where:

EIAF= effectiveness of internal audit;

IndepIA= independence of Internal Auditor

MgtS= management support

CompIA= competence of Internal Auditors

ContE= control environment

e= error term

The variables in the above equations are defined and described in Table 4.

Table 4: Estimation of factors influencing internal audit effectiveness

| Variables | Description of variables/ measurement of variables |
|---|---|
| Internal audit effectiveness | The extent of agreement or disagreement on internal audit effectiveness. It ranges from strongly disagree to strongly agree (1.000-5.000) |
| Independence of internal auditors (IndepIA) | The extent of agreement or disagreement on independence of internal auditors. It ranges from strongly disagree to strongly agree (1.000-5.000) |
| Management support for internal audit (MSP) | The extent of agreement or disagreement on management support for internal auditors. It ranges from strongly disagree to strongly agree (1.000-5.000) |
| Competence (COMPIA) | The extent of agreement or disagreement on competence of internal auditor. It ranges from strongly disagree to strongly agree (1.000-5.000) |
| Control environment (ContE) | The extent of agreement or disagree on control environment. It ranges from strongly disagree to strongly agree (1.000-5.000) |

Source: COSO (2013); Dellai (2016)

Chapter summary

This chapter looked at the methods used in investigating the research problem. This included the research approach, study design,

study area, sampling techniques, method of data collection and data analyses techniques. The next chapter takes a look at the interpretation of the results.

CHAPTER FOUR

RESULTS AND DISCUSSION

Introduction

This chapter presents data analysis and results on factors influencing internal audit effectiveness in public sector institutions in the Central Region. The Chapter begins with the response rate followed by the socio-demographic characteristics of respondents. This first part is captured mainly in tables. The second part discusses the estimation results on the factors influencing internal audit effectiveness in the Central Region.

Descriptive characteristics

This section presents the data background and descriptive statistics of the data. The study administered 142 questionnaires but 130 were neatly and completely filled-in and returned for the study, representing 91.5% response rate. The study reports the Cronbach's Alpha for reliability test, Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy, Bartlett's Test for sphericity and factor loading as shown in Table 5, Table 6 and Table 7

Table 5: Reliability Test, Sampling Adequacy Test and Factor loading

| Variables | Statements | Cronbach Alpha | KMO | Bartlett's Test for Sphericity | Factor Loading |
|------------------------------|--|-----------------------|------------|--|-----------------------|
| Internal audit effectiveness | The internal audit improves the organizational operation | 0.906 | 0.837 | Approx. Chi-square =335.387 df= 6 p=0.000 | 0.795 |
| | The internal audit creates added value to the organization | | | | 0.800 |
| | Internal audit has helped to reduce incidences of fraud | | | | 0.747 |
| | The internal audit helps the organization to accomplish its objectives | | | | 0.790 |
| Internal audit independence | Internal review auditors are adequately free to perform their expert commitments and obligations | 0.791 | 0.596 | Approx. Chi-square =103.429 df= 15 p=0.000 | 0.684 |
| | The head of internal audit reports to a level internal the association that permits the internal audit to satisfy its obligation | | | | 0.676 |
| | The internal audit department has direct contact to the board | | | | 0.587 |

Table 6 Con't

| | |
|--|-------|
| Irreconcilable circumstance is once in a while present in the work of inner auditors | 0.821 |
| Internal audit staff have free access to all departments and workers in the organization | 0.724 |
| Internal audit staff are not asked to perform non-audit functions | 0.856 |

Source: Field Data (2019)

Table 7: Reliability Test, Sampling Adequacy Test and Factor loading

| Factor | Statements | Cronbach Alpha | KMO | Bartlett's Test for Sphericity | Factor loading |
|--------------------|---|----------------|-------|---|----------------|
| Management support | Management underpins internal audit to perform its obligations | 0.752 | 0.659 | Approx. Chi-square =69.321 df= 10 p=0.000 | 0.573 |
| | Internal audit department has adequate spending plan to effectively do its obligations and responsibilities | | | | 0.443 |
| | The reactions to internal audits reports by the senior administration is sensible | | | | 0.609 |
| | Internal audit department is sufficiently vast to effectively complete its obligations and responsibilities | | | | 0.582 |

Table 6 Con't

| | | | | | |
|------------|--|-------|-------|--|-------|
| | Internal audit furnishes senior administration with adequate, solid and pertinent reports about they and proposal made | | | | 0.775 |
| Competence | The professional knowledge of internal auditors is high | 0.757 | 0.719 | Approx. Chi-square =147.981 df= 10 p=0.000 | 0.636 |
| | Internal auditors are considered as professional | | | | 0.477 |
| | Internal auditors are proactive | | | | 0.720 |
| | There is communication between internal auditors and auditees | | | | 0.601 |
| | Internal auditors attend educational seminars for continuous training | | | | 0.775 |

Source: Field Data (2019)

Table 8: Reliability Test, Sampling Adequacy Test and Factor loading

| Factor | Statements | Cronbach Alpha | KMO | Bartlett's Test for Sphericity | Factor Loading |
|---------------------|---|----------------|-------|--|----------------|
| Control environment | Internal audit policy has been communicated to all staff, board members, and outsourced service providers | 0.796 | 0.747 | Approx. Chi-square =198.423 df= 10 p=0.000 | 0.619 |
| | New management member from outside of the organization is trained or made aware of the importance of high ethics and sound internal audit | | | | 0.612 |
| | Management reviews and modifies internal audit procedures in | | | | 0.496 |

Table 7 Con't

| | |
|---|-------|
| light of anticipated changing conditions or revised priorities | |
| Internal audit measures and goals are established and periodically reviewed for relevance and adequacy in relation to their potential risks | 0.516 |
| Structure and tone at the top help establish and enforce internal audit and communicate the supports for internal audit | 0.528 |

Source: Field Data (2019)

From Table 5, 6 and 7, Cronbach's Alpha score for each factor is above 0.7 and this is a clear indication that, the data collection instrument used to collect the data is reliable. The Principal Component Factor Analysis shows coefficient of KMO to be greater than 0.5 with Barlett Test (significance value less than 5%) and this satisfies the test requirement. The factor loadings are greater than 0.4 and this indicates that the observed variables correlate with each other and the total variable. According to Hair et al. (2006), loading factor greater than 0.4 is sufficient.

The study further tested for validity using average variance extracted and composite reliability based on Fornell and Larcker (1981) as shown in Table 8.

Table 8: Validity Test of the Scale

| Factor loadings | Factor loading square | error | | |
|-------------------|-----------------------|-----------------|--------------------------------------|---|
| 0.781 | 0.609961 | 0.390039 | N | 4 |
| 0.823 | 0.677329 | 0.322671 | Average variance extracted =0.639962 | |
| 0.814 | 0.662596 | 0.337404 | Composite Reliability=0.876633 | |
| 0.781 | 0.609961 | 0.390039 | | |
| Summations | | | | |
| 3.199 | 2.559847 | 1.440153 | | |

Source: Field Data (2019)

Average Variance Extracted (AVE) is a measure of the amount of variance captured by a construct to the amount of variance due to measurement error. Composite reliability is a measure of internal consistency in scale item from Table 8, AVE is more than 0.5 and Composite Reliability (CR) is more than 0.7, this suggest that convergent validity of the construct is adequate (Fornell & Larcker, 1981).

Socio-demographic characteristics of respondents

The socio-demographic characteristics of the respondents considered in this study are sex, age, marital status, highest educational attainment and years of service in their respective place of work. The responses on the socio-demographic characteristics are summarized in Table 9.

Table 9: Socio-demographic Characteristics of Respondents

| Variables | Category | Frequency | Percentage |
|---|----------------------------|-----------|------------|
| Sex | Male | 95 | 73.1 |
| | Female | 35 | 26.9 |
| Age of respondents in years | 20-24 | 8 | 6.2 |
| | 25-29 | 27 | 20.8 |
| | 30-34 | 33 | 25.4 |
| | 35-39 | 20 | 15.4 |
| | 40-44 | 16 | 12.3 |
| | 45-49 | 7 | 5.4 |
| | 50 and Above | 19 | 14.6 |
| Marital Status | Married | 88 | 67.7 |
| | Separated | 2 | 1.5 |
| | Widow | 1 | 0.8 |
| | Never Married | 39 | 30.0 |
| The highest educational and professional qualification attained | HND | 14 | 10.8 |
| | Bachelor degree | 65 | 50.0 |
| | Master degree | 38 | 29.2 |
| | ICAG | 12 | 9.2 |
| | Certified internal auditor | 1 | 0.8 |
| Years of service within the organization | 1-5 years | 49 | 37.7 |
| | 6-10 years | 36 | 27.7 |
| | 11-15 years | 21 | 16.2 |
| | 16-20 years | 8 | 6.2 |
| | Above 20 | 16 | 12.3 |

Source: Field data (2019)

N=130

The results in Table 9 show that males were 95 (73.1%) and the females were 35 (26.7%), showing males dominance in internal audit profession. This is probably because internal audit is perceived to be difficult because of work involved and frequent movement of internal audit officials which takes them from the comfort of their homes. These combined make the work unattractive for most women because per Ghanaian tradition, a married woman is supposed

to be at home most often to take care of children and household chores even if the woman is economically active.

From Table 9, the results show that 8 (6.2%), 27 (20.8%), 33 (25.4%), 16 (12.3%), 7 (5.4%) and 19 (14.6%) of the respondents were between 20-24 years, 25-29 years, 30-34 years, 35-39 years, 40-44 years, 45-49 years and 50 and above years respectively. The age distribution suggests that majority of the respondents (67.8%) were in their youthful age (20-39 years). This suggests more time to contribute actively to service. It must be emphasized that the region also has a good number of adult and more experienced internal auditors. Therefore, the blend of youths and adults promote learning and mentorship which can make the internal audit flourish in the region.

The results in Table 9, revealed that 88 (67.7%) of the respondents were married, 2 (1.5%) were separated, 1 (0.8%) was a widow and 39 (30.0%) were never married.

Table 9 further shows that the respondents HND (10.8%), Bachelor Degree (50.0%), Master Degree (29.2%), ICAG (9.2%) and Certified Internal Audit (0.8%) as highest qualification attained. The years of service of the respondents were 49 (37.7%), 36 (27.7%), 21 (16.2%), 8 (6.2%) and 16 (12.3%) for between 1 and 5 years, 6-10 years, 11 and 15 years, 16 and 20 years and above 20 years respectively. The respondents had required academic or professional qualification to work as Internal Auditors. This presupposes that the Internal Auditors in the region had gone through education and training needed for the work. This coupled with years of service gained in their respective places of work is an indication that they know the internal audit work

ethics, roles and other things required to perform internal audit within the public sector.

Effectiveness of internal audit functions in the public sector of Ghana

This study through literature review presented in chapter two of this study, identified key things that defined effective internal audit in the public sector. The study then asked the respondents to indicate their extent of agreement or disagreement to each statement using five-point Likert Scale ranging from strongly disagree (1) to strongly agree (5). Decision on effective internal audit or otherwise is based on weighted response where the weighted average range of 1.00-3.49 indicates disagreement to a statement (indicating ineffective internal audit) and weighted range of 3.50-5.00 indicates agreement to a statement (indicating effective internal audit). The responses on effectiveness of internal audit in the public sector of the sampled institutions, departments, agencies, ministries and organizations are summarized in Table 10.

Table 10: Effectiveness of Internal Audit in the Study Area

| Statements | Strongly disagree | Disagree | Neutral | Agree | Strongly agree | Weighted Average | Std. dev. |
|--|--------------------------|-----------------|----------------|--------------|-----------------------|-------------------------|------------------|
| The internal audit improves the organizational operation | 1 (0.8) | 5 (3.8) | 6 (4.6) | 68 (52.3) | 50 (38.5) | 4.2385 | 0.77564 |
| The internal audit creates added value to the organization | 3 (2.3) | 3 (2.3) | 7 (5.4) | 63 (48.5) | 54 (41.5) | 4.2462 | 0.84506 |
| Internal audit has helped to reduce incidences of fraud | 1 (0.8) | 6 (4.6) | 8 (6.2) | 56 (43.1) | 59 (45.3) | 4.2769 | 0.83541 |
| The internal audit helps the organization to accomplish its objectives | 2 (1.5) | 7 (5.4) | 14 (10.8) | 60 (46.1) | 47 (36.2) | 4.1000 | 0.90520 |

Source: Field Data (2019); *Figures outside parentheses are frequencies and those in the parentheses are percentage*

Results in Table 10 showed that 1(0.8%) strongly disagreed, 5 (3.8%) disagreed, 6(4.6%) were neutral, 68 (52.3%) agreed and 50 (38.5%) strongly agreed that internal audit improved organizational operations. Thus, majority of the respondents attested that internal audit has improved organizational operations. (Weighted average= 4.2385; Std. dev. =0.77564). From Table 8, results show that majority of the respondents expressed agreement that internal audit created added value to organizations within the region (weighted average= 4.2462; std. dev. =0.84506). It further revealed that 3 (2.3%), 3 (2.3%), 7 (5.4%), 63 (48.5%) and 54 (41.4%) strongly disagreed, disagreed, were neutral, agreed and strongly agreed that internal audit created value added to respective organizations.

From Table 10, results showed that 1 (0.8), 6 (4.6%), 8(6.2%), 56 (43.1%) and 59 (45.3%) strongly disagreed, disagreed, were neutral, agreed and strongly agreed that internal audit has helped reduce incidence of fraud. Table 8 further show that 2 (1.5%), 7 (5.4%), 14 (10.8%), 60 (46.1%) and 47 (36.2%) strongly disagreed, disagreed, were neutral, agreed and strongly agreed that internal audit has helped in accomplishment of set organizational goals and objectives. In both cases, weighted averages show that respondents expressed agreement to the statements that internal audit “has helped to reduce fraud” and “has help to accomplish organizational set objectives timely”.

It must be noted that an effective internal audit does not just happen, but it happens when government of Ghana through its various departments, agencies and ministries and civil societies are committed to ensuring effective functioning of internal audit. Dittenhofer (2011) indicated that effectiveness of internal audit is usually dependent on the expectations of the stakeholders

irrespective of the systematic and generally valid measures that are used to gauge internal audit effectiveness. In view of this, one can comfortably say that Government of Ghana and civil societies are playing their roles in ensuring effective internal audit as expected. However, the system is not yet without challenges as some of the internal auditors believed some Internal Audit are not in compliance with rules and procedures.

Centre for Financial Reporting Reforms (CFRR, 2014) and Fekadu (2018) noted that internal audit exists among other things to help fight and reduce occurrence of fraud, accomplish goals at minimum cost that is ensuring value for money. Thus, they were of the opinion that internal audit is effective only if it helps to achieve value for money, timely accomplishment of goals and reduction in fraud.

Influence of independence of Internal Auditors' on internal audit effectiveness in the public sector in Central Region

This study selected key statements that relate to independence of Internal Auditors. The study asked the respondents to indicate their extent of agreement or disagreement to each statement under independence of internal auditors using five-point Likert Scale ranging from strongly disagree (1) to strongly agree (5). Decision is based on weighted average score where the range 1.00-3.49 indicates disagreement to a statement and range 3.50-5.00 indicates agreement to a statement.

The responses in independence of internal auditors in the region are summarized in Table 11.

Table 11: Independence of Internal Auditors

| Statements | Strongly disagree | Disagree | Neutral | Agree | Strongly agree | Weighted average | Std. dev. |
|--|-------------------|--------------|--------------|--------------|----------------|------------------|-----------|
| Internal review auditors are adequately free to perform their expert commitments and obligations | 0 (0.0) | 13 (10.0) | 21 (16.2) | 68 (52.3) | 28 (21.5) | 3.8538 | 0.87259 |
| The head of internal audit reports to a level internal the association that permits the internal audit to satisfy its obligation | 2 (1.5) | 7 (5.4) | 41 (31.6) | 48 (36.9) | 32 (24.6) | 3.7769 | 0.93399 |
| The internal audit department has direct contact to the board | 1 (0.8) | 8 (6.2) | 18 (13.8) | 63 (48.4) | 40 (30.8) | 4.0231 | 0.87573 |
| Irreconcilable circumstance is once in a while present in the work of inner auditors | 4 (3.1) | 9 (6.9) | 56 (43.1) | 55 (42.3) | 6 (4.6) | 3.3846 | 0.81063 |
| Internal audit staff have free access to all departments and workers in the organization | 2 (1.5) | 4 (3.1) | 15 (11.5) | 61 (46.9) | 48 (36.9) | 4.1462 | 0.85464 |
| Internal audit staff are not asked to perform non-audit functions | 7 (5.4) | 29 (22.3) | 38 (29.2) | 44 (33.8) | 12 (9.2) | 3.1923 | 1.05725 |
| Overall | | | | | | 3.6483 | |

Source: Field Data (2019); *Figures outside parentheses are frequencies and those in the parentheses are percentage*

Results in Table 11 showed that 13 (10.0%) disagreed, 21 (16.2%) were neutral, 68 (52.3%) agreed and 28 (21.5%) strongly agreed that Internal Auditors are free to perform their duties. This is a clear indication that majority of the respondents were of the view that Internal auditors perform their duties without any interference (weighted average=3.8538; std. dev. =0.872590).

The results further reveal that 2(1.5%), 7(5.4%), 41(31.6%), 48 (36.9%) and 32(24.6%) strongly disagreed, disagreed, were neutral, agreed and strongly agreed that head of internal audit reports to a level internal that permits the internal audit to satisfy its obligation. Respondents expressed agreement to the statement “head of internal audit reports to a level internal that permits the internal audit to satisfy its obligation” (weighted average=3.7769; std. dev.=0.93399).

From Table 11, respondents expressed agreement to the statements “internal audit department has direct contact to the board” (weighted average=4.0231; std. dev.=0.87573) and “internal audit staff have free access to all departments and workers in the organization” (weighted average= 4.1462; std. dev.=0.85464). Results in Table 11 show that though there is general agreement to the statements, 1 (0.8%) strongly disagreed, 8 (6.2%) disagreed, 18 (13.8%) were neutral, 63 (48.4%) agreed and 40 (30.8%) strongly agreed that internal audit department has direct contact with the finance director and management. Also, 2 (1.5%) strongly disagreed, 4(3.1%) disagreed, 15 (11.5%) were neutral, 61 (46.9% agreed and 48 (36.9%) strongly agreed that internal audit staff have free access to all departments and workers in the organization.

However, from Table 11, results show that respondents were neutral to the statement “irreconcilable circumstance is once in a while present in the work

of inner auditor” (weighted average= 3.3846; std=0.81063). The standard deviation score for each statement gives variation in responses ranging from strongly disagree to strongly disagree, though there is general expression of disagreement to each statement (see Table 8 for details).

From the above, it is obvious that internal auditors were independent to a large extent. This is because, the internal auditors are free to perform their duties, they have free access to board, management and all departments of their respective organization and internal audit staffs focused only on internal audit works. This is a clear indication that the internal auditors are not obstructed or intimidated by any member within or outside their respective organization. This denotes that internal auditors would be objective in the delivery of their functions.

Management support for internal audit

Table 12 showed the responses on management support for internal audit in the public sector in the Central Region of Ghana.

Table 12: Management Supports for Internal Audit in the Study Area.

| Statements | Strongly disagree | Disagree | Neutral | Agree | Strongly agree | Weighted average | Std. dev. |
|--|--------------------------|-----------------|----------------|--------------|-----------------------|-------------------------|------------------|
| Management underpins internal audit to perform its obligations | 9 (6.9) | 23 (17.7) | 30 (23.1) | 53 (40.8) | 15 (11.5) | 3.3231 | 1.10822 |
| Internal audit department has adequate spending plan to effectively do its obligations and responsibilities | 5 (3.8) | 18 (13.8) | 26 (20.0) | 62 (47.7) | 19 (14.6) | 3.5538 | 1.02724 |
| The reactions to internal audits reports by the senior administration is sensible | 2 (1.5) | 13 (10.0) | 34 (26.2) | 65 (50.0) | 16 (12.3) | 3.6154 | 0.88383 |
| Internal audit department is sufficiently vast to effectively complete its obligations and responsibilities | 4 (3.1) | 11 (8.5) | 27 (20.8) | 63 (48.5) | 25 (19.2) | 3.7231 | 0.97261 |
| Internal audit furnishes senior administration with adequate, solid and pertinent reports about they and proposal made | 4 (3.1) | 6 (4.6) | 29 (22.3) | 76 (58.5) | 15 (11.5) | 3.7077 | 0.84853 |
| Overall | | | | | | 3.5846 | |

Source: Field data (2019); Figures outside parentheses are frequencies and those in the parentheses are percentages

The results in Table 12 showed that 9 (6.9%), 23 (17.7%), 30 (23.1%), 53 (40.8%) and 15 (11.5%) of the respondents strongly disagreed, disagreed, were neutral, agreed and strongly agreed respectively that management underpins internal audit to perform its obligations. The overall response indicates that majority of the respondents were neutral to the statement “management underpins internal audit to perform its obligations”.

However, respondents agreed that internal audit department has adequate spending plan to effectively do its obligations and responsibilities (Weighted average= 3.5538). The standard deviation score shows variation in the responses as 5 (3.8%) strongly disagreed, 18 (13.8%) disagreed, 26 (20.0%) were neutral, 62 (47.7%) agreed and 19 (14.6%) strongly agreed that internal audit department has adequate financial resources.

From Table 12, results showed that 2 (1.5%), 13 (10.0%), 34 (26.2%), 65 (50.0%) and 16 (12.3%) strongly disagreed, disagreed, were neutral, agreed and strongly agreed that reactions to internal audits reports by the senior administration is sensible. The weighted average (3.6154) shows that majority of the respondents agreed that management sensibly reacts to internal audit reports.

The results in Table 12 showed that 4(3.1%), 11(8.5%), 27 (20.8%), 63(48.5%) and 25 (19.2%) of the respondents strongly disagreed, disagreed, were neutral, agreed and strongly agreed that internal audit department is sufficiently vast to effectively complete its obligations and responsibilities. This is an indication that majority agreed that internal audit department is sufficiently vast to effectively complete its obligations and responsibilities.

The Table 12 further shows that 4 (3.1%), 6 (4.6%), 29 (22.3%), 76(58.5%) and 15 (11.5%) of the respondents strongly disagreed, disagreed, were neutral, agreed and strongly agreed that internal audit furnishes senior administration with adequate, solid and pertinent reports about they and proposal made. The weighted average score of 3.7077 is an indication that majority agreed that internal audit furnishes senior administration with adequate, solid and pertinent reports about they and proposal made

Management support for internal audit is high. These supports are seen in the areas of budgetary allocation, logistics and human resources for the internal audit department. This shows that managements within public sector in the study area is committed to effective internal audit. IIA (2016) noted that, in organizations where management ensures that the internal audit department has the necessary resources that are required in the performance of their duties, the internal audit is effective. This study noted from the respondents that management implements the recommendation of the internal audit department. Mustika (2014); Drogalas and Siopi (2017) indicated that management support is also demonstrated in their commitment to implement the internal audit recommendations and the internal audit processes as a whole.

Control environment

Control environment sets the tone for internal audit and it is the basis upon which other variables stand. The control environment in the sampled departments, agencies, ministries, institutions and organizations are summarized in Table 13.

Table 13: Control Environment in the Public Sector in the Central Region

| Statements | Strongly disagree | Disagree | Neutral | Agree | Strongly agree | Weighted average | Std. dev. |
|---|-------------------|--------------|--------------|--------------|----------------|------------------|-----------|
| Internal audit policy has been communicated to all staff, board members, and outsourced service providers | 4 (3.1) | 13 (10.0) | 36 (27.7) | 57 (43.8) | 20 (15.4) | 3.5846 | 0.97077 |
| New management member from outside of the organization is trained or made aware of the importance of high ethics and sound internal audit | 5 (3.8) | 19 (14.6) | 38 (29.2) | 57 (43.8) | 11 (8.5) | 3.3846 | 0.96757 |
| Management reviews and modifies internal audit procedures in light of anticipated changing conditions or revised priorities | 2 (1.5) | 18 (13.8) | 40 (30.8) | 60 (46.2) | 10 (7.7) | 3.4462 | 0.88099 |
| Internal audit measures and goals are established and periodically reviewed for relevance and adequacy in relation to their potential risks | 0 (0.0) | 13 (10.0) | 30 (23.1) | 77 (59.2) | 10 (7.7) | 3.6462 | 0.76616 |
| Structure and tone at the top help establish and enforce internal audit and communicate the supports for internal audit | 4 (3.1) | 8 (6.2) | 35 (26.9) | 70 (53.8) | 13 (10.0) | 3.6154 | 0.86611 |
| Overall | | | | | | 3.5354 | |

Source: Field data (2019); Figures outside parentheses are frequencies and those in the parentheses are percentages

Results in Table 13 showed that respondents expressed agreement that internal audit policy has been communicated to all staff, board members, and outsourced service providers, internal audit measures and goals are established and periodically reviewed for relevance and adequacy in relation to their potential risks and structure and tone at the top help establish and enforce internal audit and communicate the supports for internal audit.

From Table 13, 4 (3.1%), 13 (10.0%), 36(27.7%), 57 (43.8%) and 20 (15.4%) strongly disagreed, disagreed, were neutral, agreed and strongly agreed respectively that internal audit policy has been communicated to all staff, board members, and outsourced service providers. It further shows that 13(10.0%) disagreed, 30 (23.1%) were neutral, 77 (59.2%) agreed and 10 (7.7%) strongly agreed that internal audit measures and goals are established and periodically reviewed for relevance and adequacy in relation to their potential risks. Table 13 shows that 4 (3.1%), 8 (6.2%), 35 (26.9%), 70 (53.8%) and 13 (10.0%) strongly disagreed, disagreed, were neutral, agreed and strongly agreed respectively that structure and tone at the top help establish and enforce internal audit and communicate the supports for internal audit.

However, the results in Table 13 showed that respondents expressed disagreement to the statements “new management member from outside of the organization is trained or made aware of the importance of high ethics and sound internal audit” and “management reviews and modifies internal audit procedures in light of anticipated changing conditions or revised priorities”. Though the respondents generally expressed disagreement to the above statements, the responses varied from strongly disagreed to strongly agreed (See Table 13 for detailed).

Though control environment for internal audit is good, there are some areas that need much concern and these include review of internal audit procedures within time and training of new management member on existing internal audit procedures. This study found significant positive impact of control environment on effectiveness of internal audit. According to DeZoort and Salterio (2011), in organizations where CEO, Heads of Department and Audit Committees are honest, competent, loyal to investors, internal audit is effective.

Competence of Internal Auditors

The statements related to competence of internal auditors and the responses to each are shown in Table 14.

Table 14: Competence of Internal Auditors

| Statements | Strongly disagreed | Disagree | Neutral | Agree | Strongly agree | Weighted average | Std. dev. |
|---|-----------------------|--------------|--------------|--------------|-------------------|---------------------|--------------|
| The professional knowledge of internal auditors is high | 1 (0.8) | 6 (4.6) | 13 (10.0) | 79 (60.8) | 31 (23.8) | 4.0231 | 0.77225 |
| Internal auditors are considered as professional | 1 (0.8) | 18 (13.8) | 22 (16.9) | 77 (59.2) | 12 (9.2) | 3.6231 | 0.86504 |
| Internal auditors are proactive | 1 (0.8) | 3 (2.3) | 23 (17.7) | 89 (68.5) | 14 (10.8) | 3.8615 | 0.65597 |
| There is communication between internal auditors and auditees | 0 (0.0) | 4 (3.1) | 23 (17.7) | 86 (66.2) | 17 (13.1) | 3.8923 | 0.64994 |
| Internal auditors attend educational seminars for continuous training | 3 (2.3) | 9 (6.9) | 22 (16.9) | 60 (46.2) | 36 (27.7) | 3.9000 | 0.96328 |
| Overall | | | | | | 3.8600 | |

Source: Field Data (2019); Figures outside parentheses are frequencies and those in the parentheses are percentages

The results in Table 14 show that respondents agreed to all the statements related to competence of internal auditors. However, the standard deviation values show that the responses varied from strongly disagreed to strongly agree. Table 14 shows that 1 (0.8%), 6 (4.6%), 13 (10.0%), 79 (60.8%) and 31 (23.8%) strongly disagreed, disagreed, were neutral, agreed and strongly agreed to the statement “the professional knowledge of internal auditors is high”. It is further shown in Table 14 that 1 (0.8%), 18 (13.8%), 22 (16.9%), 77 (59.2%) and 12 (9.2%) strongly disagreed, disagreed, were neutral, agreed and strongly agreed that internal auditors are considered as professionals.

The response to the statement “internal auditors are proactive” were 1 (0.8%), 3(2.3%), 23 (17.7%), 89(68.5%) and 14 (10.8%) for strongly disagreed, disagreed, neutral, agreed and strongly agreed respectively. From Table 14, results show that 4(4.1%), 23 (17.7%), 86(66.2%) and 17(13.1%) disagreed, were neutral, agreed and strongly agreed that there is communication between internal auditors and auditees. It is further shown from Table 14 that 3 (2.3%), 9 (6.9%), 22 (16.9%), 60 (46.2%) and 36 (27.7%) of the respondents strongly disagreed, disagreed, were neutral, agreed and strongly agreed that Internal auditors attend educational seminars for continuous training.

The study observed that the internal auditors are competent. They are competent because, they have required academic and professional knowledge as internal auditors, they information technology proficient and understand internal audit procedures and policies within the public sector of Ghana

Estimating the determinants of effectiveness of internal audit

To estimate the impact of the variables on effectiveness of internal audit, this study performed preliminary test such as Fisher’s Exact Test, correlation test using Bonferroni-Adjusted significance level and serial correlation test using variance inflation factor (VIF) and tolerance level. The Fisher’s exact test shows the association between each of the factors (independence of internal auditors, management support, competence of internal auditors and control environment) and the results are summarized in Table 15.

Table 15: Association between Each internal audit factor and Effectiveness of Internal Audit

| Factors | Fisher’s Exact Test | p-values |
|----------------------------------|----------------------------|-----------------|
| Independence of Internal Auditor | 25.268 | 0.031* |
| Management support | 41.137 | 0.000* |
| Competence of Internal Auditors | 32.163 | 0.000* |
| Control environment | 26.831 | 0.016* |

Source: Field Data (2019): * *Significant at 5%*

Results in Table 15 showed significant association between each of the factors and the effectiveness of internal audit in the study area. Internal audit effectiveness has significant association with independence of Internal Auditors, management support, competence of Internal Auditors and control environment.

The Correlation test showed the direction and the degree of relationship between each of the factors and effectiveness of internal audit and the results are shown in Table 16.

Table 16: Correlation Matrix (Bonferroni- Adjusted Significance Level)

| | EffectIA | IndepIA | MgtS | CompIA | ConV |
|----------|----------|---------|---------|---------|--------|
| EffectIA | 1.0000 | | | | |
| IndepIA | 0.4067* | 1.0000 | | | |
| MgtS | 0.4683* | 0.4225* | 1.0000 | | |
| CompIA | 0.5905* | 0.2833* | 0.5654* | 1.0000 | |
| ConE | 0.4827* | 0.2764* | 0.5069* | 0.4885* | 1.0000 |

Source: Field Data (2015): * Significant at 5%; where *EffectIA*=internal audit effectivenesses; *IndepIA*= independence of internal auditors; *MgtS*=management support; *CompIA*=competence of internal auditors; *ConE*=control environment

The results in Table 16 showed that independence of internal auditors and internal audit effectiveness had significant positive relationship. This shows that an increase in independence of Internal Auditor significantly increases internal audit effectiveness and as independence of internal auditors is decreasing, the internal audit effectiveness decreases. However, the relationship between independence of internal auditors and internal audit effectiveness is weak since the correlation coefficient is less than 0.5 ($r=0.4067$).

Table 16 also showed that management supports and internal audit effectiveness had weak but significant positive relationship ($r=0.4683$). Therefore, an increase in management support significantly increases internal audit effectiveness. On the other hand, a decrease in management support significantly but weakly decreases internal audit effectiveness.

From Table 16, competence and internal audit effectiveness had strong and significant positive relationship ($r= 0.5905$). This means that a rise in competence of Internal Auditors significantly and strongly increases internal

audit effectiveness but a fall in competence significantly and strongly decreases internal audit effectiveness.

Control environment had weak but significant positive relationship with internal audit effectiveness ($r=0.4827$). Therefore, the stronger the control environment, the higher the internal audit effectiveness and weaker the control environment, the lower the internal audit effectiveness.

From Table 17, the results show that there is no problem of serial correlation. This is because all VIF values less than 3.0 and all the tolerance level values are more than 0.4. This follows Brien (2007), Variance Inflation Factor (VIF) of less 3.0 and tolerance level of above 0.4 for independence variables indicate no serious problem of serial correlation.

This study based on the preliminary tests, proceeded the structural equation modelling (SEM) using standardized coefficient option. The structural equation modelling diagram is shown at appendix C. Table 17 summarizes the estimated SEM results below:

Table 17: Estimated Structural Equation Model for Determinants of Internal Audit Effectiveness

| Factors | Coeff. | Std Err | Z | P-value | 95% Conf. Interval | | VIF | TL (1/VIF) |
|--------------------------|------------|------------------------|-------|---------|--------------------|-----------|------|------------|
| Independence | 0.2170893 | 0.0716206 | 3.03 | 0.002 | 0.0767155 | 0.3574632 | 1.23 | 0.815060 |
| Management support | 0.045374 | 0.0875141 | 0.52 | 0.604 | -0.1261506 | 0.2168985 | 1.80 | 0.55608 |
| Competence | 0.4046345 | 0.0790469 | 5.12 | 0.000 | 0.2497054 | 0.5595636 | 1.60 | 0.624547 |
| Control environment | 0.202015 | 0.0784764 | 2.57 | 0.010 | 0.0482041 | 0.3558259 | 1.47 | 0.680169 |
| Constant | -0.6682555 | 0.6406698 | -1.04 | 0.297 | -1.923945 | 0.5874343 | - | - |
| No. of obs. | 130 | | | | | | | |
| LR | | | | | | | | |
| Chi ² _ms(0) | | | | | | | | |
| p-value | 0.000 | model vs. Saturated | | | | | | |
| Chi ² _bs (4) | | | | | | | | |
| p>Ch | 76.773 | baseline vs. saturated | | | | | | |
| | 0.000 | | | | | | | |

Source Field Data (2019); where VIF= variance inflation factor; TL=tolerance level

Organizational Independence

The results in Table 17 showed that organizational independence has significant positive impact on internal audit effectiveness at 5% significant level. A unit increase in organizational independence significantly increases internal audit effectiveness by 0.217 and a unit decrease in organizational independence significantly decreases internal audit effectiveness by 0.217. This study therefore rejects the null hypothesis in favour of alternative hypothesis that organizational independence significantly influences internal audit effectiveness in the public sector in the Central Region of Ghana.

This is consistent with Agency Theory. Agency Theory emphasizes the need to align the interest of agents to that of principal. Within the public sector, administrators and other staff are agents and Government of Ghana, the principal. The interests of these agents are aligned to the interest of Government of Ghana when there are independent internal auditors to perform effective and efficient internal audit to ensure value for money.

Empirically, this study supports the findings of Shamsuddin and Bharathii (2014) and Nyaga, Kiragu and Riro (2018) that there is a positive relationship between organizational independence and internal audit effectiveness. For example, Nyaga, Kiragu & Riro's (2018) found out that internal audit independence was an important predictor of internal audit effectiveness in the Kirinyaga County Government.

Management Support

Results in Table 17 showed that public management support does not significantly impact internal audit effectiveness at 5% significant level. The findings in this study support the findings in the study of Tackie, Marfo-Yiadom

and Achina (2016), that management support does not significantly influence internal audit effectiveness by local governments in the Ashanti Region of Ghana. This study therefore accepts the null hypothesis that management support does not significantly influence internal audit effectiveness.

This finding does not support Institutional Theory. According to Institutional Theory, institutions are given resources to achieve set goals. However, these goals are achieved when the resources are allocated effectively and efficiently. Therefore, within the public sector, when needed resources are provided to internal auditors on time, they are able to effectively and efficiently perform their roles to improve internal audit effectiveness. This is however not the case in the public sector in Central Region, suggesting that resources are not effectively and efficiently allocated to internal auditors.

Empirically, this result contradicts the findings of most previous studies (Shamsuddin & Bharathii, 2014; Alzeban & Gwilliam, 2014; Fekadu, 2018; Mustika, 2015; Baharud-din, Shokiyah & Ibrahim, 2014) that concluded that management support significantly influences internal audit effectiveness.

The differences in the outcome on management support in this study and other studies may be attributed to how management support was measured in this study.

Competence of internal auditors

From Table 17, results showed that competence has significant positive impact on internal audit effectiveness at 5% significant level. A unit increase in competence significantly increases internal audit effectiveness by 0.405 and a unit decrease in competence significantly decreases internal audit effectiveness by 0.405. This study therefore rejects the null hypothesis in favour of alternative

hypothesis that competence of internal auditors significantly influences internal audit effectiveness in the public sector in the Central Region of Ghana.

This supports Positive Accounting Theory and Agency Theory. Positive Accounting Theory places importance on accounting values; hence the need to have competent internal auditors. Agency Theory focuses on aligning the interests of agents to interests of principles and this is possible when internal auditors are competent. Therefore, from Positive Accounting Theory and Agency Theory, higher competence of internal auditors leads to effective internal audit in the public sector.

This study confirms findings of previous studies by Asiedu and Deffour (2017) and Onumah and Yao Krah (2012), that internal audit is not effective in most African countries because most internal auditors in the public sector lack competence. Similarly, Christopher, Sarens and Leung (2009) found out that weak competence of Internal Auditors was undermining the effectiveness of internal audit in Australia.

Control environment

The results in Table 17 showed that control environment has significant positive impact on internal audit effectiveness. With reference to the standardized coefficient, a unit increase in control environment significantly increases 0.202 internal audit effectiveness and a unit decrease in control environment significantly decreases internal audit effectiveness by 0.202. This study therefore, rejects the null hypothesis in favour of alternative which says that control environment influences internal audit effectiveness.

According to Agency Theory, agents are selfish individuals and without controls, they will seek their own interest to the disadvantage of the interest of

their principal. Therefore, from Agency Theory, effective control environment, leads to realization of social goal through effective internal audit. This is because, control environment is the foundation of internal control system of which internal audit is a part. Thus, effectiveness of internal audit depends on control environment (Sekyi & Moreno, 2017). Control environment borders on honesty of board of directors, management and audit committee and laid down rules and regulations to govern practice of internal audit. In the opinion of DeZoort and Salterio (2011), in an organization where control environment is strong, internal audit is effective.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Introduction

This final chapter summarizes the major findings of the study undertaken on factors influencing internal audit effectiveness in the Ghanaian public sector in Central Region. The chapter is divided into four sections. Section one has a summary of the study, section two presents the conclusions of the study while section three make recommendations derived from the analysis of the available data. The final section made suggestions for future research.

Summary

The rise in financial scandals in recent times in government institutions and entities despite the existence of internal audit units in the public sector, has made the role of internal audit effectiveness to attract the attention of academic researchers, professional bodies, the financial community and regulators (Abdullahi & Mansor, 2018; Sharma & Panigrahi, 2012).

The purpose of this study was to examine factors that influence internal audit effectiveness in the Ghanaian Public Sector in Central Region. Specifically, first objective was to examine the influence of independence of internal auditors on internal audit effectiveness in the public sector in Central Region. The second objective was to examine the influence of management support on internal audit effectiveness in the public sector in Central Region, the third objective focused on competence of internal auditors on internal audit effectiveness while the fourth objective was to determine the control

environment on internal audit effectiveness in the public sector in Central Region.

From a population of 191, initial sample size of 142 was taken based on Krejcie and Morgan sample size determination table (1970), but only 130 filled-in questionnaires were retrieved for the analysis. Stratified sampling was used to sample the internal auditors from the public sector in the Central Region. The study adopted internal audit effectiveness determinants questionnaires by Drogalas et al. (2015), Dellai (2016) and COSO (2013).

The questionnaire which was self-administered to Internal Auditors centred on socio-demographic characteristics, effectiveness of internal audit, independence of Internal Auditors, management support for internal audit, competence of internal Auditors and control environment of internal audit.

Data on socio-demographic characteristics were analysed descriptively using frequency tables, while data on effectiveness of internal audit, independence of Internal Auditors, management support, competence of internal auditors and control environment were analysed using frequency tables, weighted average and standard deviation. The study used Structural Equation Modelling (SEM) to estimate the factors that influence effectiveness of internal audit. The independent variables were independence of internal auditor, management support, competence of internal auditors and control environment. This study used SPSS, version 21.0 and STATA 13 for all analyses.

Conclusions

The following conclusions are deduced from the analysis and findings of the study. With regards to the first objective, this study concluded that, independence of internal auditors significantly influences internal audit

effectiveness in the public sector in Central Region. Therefore, public organizations and institutions that ensure that internal auditors are independent would have effective internal audit unit.

With regard to the second objective, this study concluded that management supports do not significantly influence internal audit effectiveness. This may be due to perception internal auditors and internal audit department in general have about management support. Management supports is probably seen as mandatory obligation of managements in the public sector and this perception undermine the effectiveness of management support to improve internal audit effectiveness.

With regards to the third objective, this study concluded that competence of internal auditors significantly influences internal audit effectiveness. Competent internal auditors better know and understand internal audit rules, regulations and policies so they are able to work within proper framework, leading to effective internal audit.

Last but not the least, this study concluded that control environment significantly influences internal audit effectiveness. Control environment sets the tone for internal audit within both public and private sectors all over the world. The tone set then influences everything done within the organization.

A bad tone where board of directors and management are not honest and competent; where there are no documented policies governing internal audit among others, there would be poor internal audit. However, good control environment where board of directors and management are honest, competent and disciplined; where there are well laid down documented policies governing the actions of individuals, there will be effective internal audit.

Recommendations

This study makes the following recommendation to improve the effectiveness of internal audit in the public sector:

First of all, this study recommends that internal auditors should be seen as an independent body within public sector and this independence should be respected by all within the public sector, including the Internal Auditors themselves. This is consistent with Agency Theory and Government of Ghana should lead the promotion of the independence of Internal Auditors since it stands to benefit more than any other economic agents.

The second recommendation is support for internal audit. Management of various public institutions and organization should be made to understand the importance of internal audit within the framework of organizational building and value for money. Institutional Theory noted that, managements within the public sector have specific goals to achieve; thus, they should see internal auditors as partners in achieving those set goals. In view of this, management should allocate needed financial, logistics and human resource to internal audit departments on time to improve their effectiveness. The supports should be provided fairly and justly. Management should not wait for lamentation from internal auditors before they see the need to provide necessary support for the smooth functioning of internal audit in the public sector.

The third recommendation is regular training and development of internal auditors. Competence of internal auditors increases the effectiveness of internal audit in the public sector. This competence could be achieved through regular training and development of internal auditors on new internal audit

policies, rules and procedures and also sharing of experiences among internal auditors across various public institutions and organization.

From Positive Accounting Theory point of view, competent internal auditors ensure accurate accounting values, thereby ensuring value for money. Also, Agency Theory noted that, competent internal auditors help align interests of public sector administrators to interest of Government. Therefore, this study recommends that Government of Ghana should ensure that managements of public sector train and develop all internal auditors.

Finally, control environment should be improved from time to time. From Agency Theory, Government of Ghana should always appoint Board members who have in-depth knowledge and understanding of internal audit and are committed to ensuring effective internal audit. This is imperative because tone for effective internal audit in any organization is set by board of directors through their actions and inactions.

Suggestions for Future Research

This study suggests that future research on internal audit should focus on role of sex on effect of competence and commitment of Internal Auditors on effectiveness of internal audit in public sector. Future research should also compare effectiveness of internal audit across public institutions that is MMDAs, Ministries and other state institutions or organization to reveal public organizations or institutions with effective or ineffective internal audit.

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APPENDIX A

UNIVERSITY OF CAPE COAST

COLLEGE OF HUMANITIES AND LEGAL STUDIES

SCHOOL OF BUSINESS

DEPARTMENT OF ACCOUNTING

QUESTIONNAIRE ON FACTORS AFFECTING INTERNAL AUDIT

EFFECTIVENESS IN THE GHANAIAN PUBLIC SECTOR

Dear Respondent,

The questionnaire is designed to solicit information on “Factors Affecting Internal Audit Effectiveness in the Public Sector”. This is a study in partial fulfilment of the requirements for the Master of Commerce (Accounting) degree in University of Cape Coast. The information provided by you will be purely for academic purpose and will be treated with utmost confidentiality. Your opinion is of much importance to the study. In order to accomplish this study, you are kindly requested to complete this questionnaire.

Thank you.

Section I: Socio-Demographic Characteristics of respondent

Please read each question carefully and choose the appropriate answers by ticking $\{\surd\}$ in the appropriate box corresponding to the chosen item and write where necessary.

1. Sex:

Male Female

2. Age of respondents in years:

20-24 25-29 30 – 34

35-39 40-44 45 – 49 50 and above

3. Marital status:

Married [] Separated [] Divorced [] Widow [] Never married []

4. What is the highest educational and professional qualification attained?

HND [] Bachelor degree [] Master degree [] PhD []

Other, please specify

5. Years of service within the organization:

1-5 years [] 6-10 years [] 11-15 years [] 16-20 years []

Above 20 []

Section II: Internal audit effectiveness

The statements below relate to internal audit effectiveness in public sector in the Central Region of Ghana. Use the scale below to indicate the extent of your agreement or disagreement to each of them.

1=strongly disagree; 2=disagree; 3=neutral; 4=agree and 5=strongly agree

| No. | Statements | 1 | 2 | 3 | 4 | 5 |
|-----|--|---|---|---|---|---|
| 8 | The internal audit improves the organizational operation | | | | | |
| 9 | The internal audit creates added value to the organization | | | | | |
| 10 | Internal audit has helped to reduce incidences of fraud | | | | | |
| 11 | The internal audit helps the organization to accomplish its objectives | | | | | |

Section III: Organizational independence

The statements below relate to organizational independence in public sector in Ghana. Indicate the extent of agreement or disagreement to the statements using the scale below:

1=strongly disagree; 2=disagree; 3=neutral; 4=agree and 5=strongly agree

| No. | Statements | 1 | 2 | 3 | 4 | 5 |
|-----|--|---|---|---|---|---|
| 12 | Internal review auditors are adequately free to perform their expert commitments and obligations | | | | | |
| 13 | The head of internal audit reports to a level internal the association that permits the internal audit to satisfy its obligation | | | | | |
| 14 | The internal audit department has direct contact to the board | | | | | |
| 15 | Irreconcilable circumstance is once in a while present in the work of inner auditors | | | | | |
| 16 | Internal audit staff have free access to all departments and workers in the organization | | | | | |
| 17 | Internal audit staff are not asked to perform non-audit functions | | | | | |

Section IV: Management Support

The statements below relate to management supports in public sector in Ghana. Indicate the extent of agreement or disagreement to the statements using the scale below:

1=strongly disagree; 2=disagree; 3=neutral; 4=agree and 5=strongly agree

| No. | Statements | 1 | 2 | 3 | 4 | 5 |
|-----|--|---|---|---|---|---|
| 17 | Management underpins internal audit to perform its obligations | | | | | |
| 18 | Internal audit department has adequate spending plan to effectively do its obligations and responsibilities | | | | | |
| 19 | The reactions to internal audits reports by the senior administration is sensible | | | | | |
| 20 | Internal audit department is sufficiently vast to effectively complete its obligations and responsibilities | | | | | |
| 21 | Internal audit furnishes senior administration with adequate, solid and pertinent reports about they and proposal made | | | | | |

Section IV: Competence

The statements below relate to competence in public sector in Ghana. Indicate the extent of agreement or disagreement to the statements using the scale below:

1=strongly disagree; 2=disagree; 3=neutral; 4=agree and 5=strongly agree

| No. | Statements | 1 | 2 | 3 | 4 | 5 |
|-----|---|---|---|---|---|---|
| 22 | The professional knowledge of internal auditors is high | | | | | |
| 23 | Internal auditors are considered as professional | | | | | |
| 24 | Internal auditors are proactive | | | | | |
| 25 | There is communication between internal auditors and auditees | | | | | |
| 26 | Internal auditors attend educational seminars for continuous training | | | | | |

Section V: Control environment

The statements below relate to control environment in public sector in Ghana. Indicate the extent of agreement or disagreement to the statements using the scale below:

1=strongly disagree; 2=disagree; 3=neutral; 4=agree and 5=strongly agree

| No. | Control environment | 1 | 2 | 3 | 4 | 5 |
|-----|---|---|---|---|---|---|
| 27 | Code of conduct and/or ethics policy has been communicated to all staff, board members, and outsourced service providers | | | | | |
| 28 | New management member from outside of the organization is trained or made aware of the importance of high ethics and sound internal audit | | | | | |

| | | | | | | |
|----|---|--|--|--|--|--|
| 29 | Management reviews and modifies the organizational structure in light of anticipated changing conditions or revised priorities | | | | | |
| 30 | Policies and procedures are adequate for authorizing and approving transactions | | | | | |
| 31 | Performance measures and goals are established and periodically reviewed for relevance and adequacy in relation to their potential risks. | | | | | |
| 32 | Structure and tone at the top helps establish and enforce individual accountability for performance of internal control responsibilities and communicates and supports the accountability for responsible conduct of its staff. | | | | | |

END OF QUESTIONNAIRE.

APPENDIX B

UNIVERSITY OF CAPE COAST

SCHOOL OF BUSINESS

DEPARTMENT OF ACCOUNTING

The Director,

April, 2019

Internal Audit Agency

P.M.B 31 Ministries,

Accra

Dear Sir/Madam,

Dear Sir,

LETTER OF INTRODUCTION

The bearer of this letter, Mrs. Victoria Korkor Kukuiah, is Master of Commerce (Accounting) student of the School of Business, University of Cape Coast, and is writing a Thesis on “Factors that Influence Internal Audit Effectiveness in the Ghanaian Public Sector in Ghana.”

We would be grateful if you could offer her the needed assistance.

Thank you in anticipation of your co-operation.

Yours faithfully,

Signed

Mohammed Zangina Isshaq (**PhD**)

HEAD

APPENDIX D

Krejcie and Morgan's Table for Determining Sample Size from a Given Population

| N | S | N | S | N | S | N | S | N | S |
|----|----|-----|-----|-----|-----|------|-----|--------|-----|
| 10 | 10 | 100 | 80 | 280 | 162 | 800 | 260 | 2800 | 338 |
| 15 | 14 | 110 | 86 | 290 | 165 | 850 | 265 | 3000 | 341 |
| 20 | 19 | 120 | 92 | 300 | 169 | 900 | 269 | 3500 | 246 |
| 25 | 24 | 130 | 97 | 320 | 175 | 950 | 274 | 4000 | 351 |
| 30 | 28 | 140 | 103 | 340 | 181 | 1000 | 278 | 4500 | 351 |
| 35 | 32 | 150 | 108 | 360 | 186 | 1100 | 285 | 5000 | 357 |
| 40 | 36 | 160 | 113 | 380 | 181 | 1200 | 291 | 6000 | 361 |
| 45 | 40 | 180 | 118 | 400 | 196 | 1300 | 297 | 7000 | 364 |
| 50 | 44 | 190 | 123 | 420 | 201 | 1400 | 302 | 8000 | 367 |
| 55 | 48 | 200 | 127 | 440 | 205 | 1500 | 306 | 9000 | 368 |
| 60 | 52 | 210 | 132 | 460 | 210 | 1600 | 310 | 10000 | 373 |
| 65 | 56 | 220 | 136 | 480 | 214 | 1700 | 313 | 15000 | 375 |
| 70 | 59 | 230 | 140 | 500 | 217 | 1800 | 317 | 20000 | 377 |
| 75 | 63 | 240 | 144 | 550 | 225 | 1900 | 320 | 30000 | 379 |
| 80 | 66 | 250 | 148 | 600 | 234 | 2000 | 322 | 40000 | 380 |
| 85 | 70 | 260 | 152 | 650 | 242 | 2200 | 327 | 50000 | 381 |
| 90 | 73 | 270 | 155 | 700 | 248 | 2400 | 331 | 75000 | 382 |
| 95 | 76 | 270 | 159 | 750 | 256 | 2600 | 335 | 100000 | 384 |

N = Population Size S = Sample Size